

**Anti-Inflammatory, Analgesic and Anti-Pyretic Activity of**  
**CHUKKU CHOORANUM**

**&**

**Anti-Ulcer Activity of**  
**ANNABEDHI CHENDURAM**  
**(DISSERTATION SUBJECT)**



*For the partial fulfillment of requirements to the Degree of*  
**DOCTOR OF MEDICINE (SIDDHA)**  
**(GUNAPADAM BRANCH)**

**GOVERNMENT SIDDHA MEDICAL COLLEGE**

**Tirunelveli – 627002**

**(Affiliated to the Tamilnadu Dr.M.G.R. Medical University, Chennai)**

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## INTRODUCTION

Life is man's most valuable possession and next in order of value is health. Health is the chief basis for the development of the ethical, economical, artistic and spiritual sides of man. The wealth of a country depends not merely on its natural resources but also on the vitality of its people.

The science of medicine is of fundamental importance to man's well being and his survival which might have originated with man and developed gradually as civilization advanced.

From the very ancient days, there were many systems of medicine to cure the diseases. Siddha system of medicine is one among the ancient medical science which is propounded and practised by eminent spiritual scientists called Siddhars. They were the men of highly cultured intellectual and spiritual combined with divine aspects.

Medicine is one which prevents physical illness, maintains perfect mental health, saves one individual from further illness and prolongs the longevity. This is quoted by great Siddhar Thirumoolar as,

“மறுப்பதுடல் நோய் மருந்தெனலாகும்  
மறுப்பதுளநோய் மருந்தெனச்சாலும்  
மறுப்பதினி நோய் வாராதிருக்க  
மறுப்பது சாவையு மருந்தெனலாமே”.

The basic emphasis of Siddha system is to prevent diseases of careful dieting and proper relaxation of the mind to achieve a totality of health that assures not only longevity but also immortality. It is explained by Thirumoolar,

“உடம்பர் அழியின் உயிரர் அழிவர்  
திடம்பட மெய்ஞ்ஞானம் சேரவும் மட்டார்  
உடம்பை வளர்க்கும் உபாயம் அறிந்தே  
உடம்பை வளர்த்தேன் நல்உயிர்வளர்த்தேனே”

In that way the author has selected ‘Annabedhi Chendhuran’ to study its efficacy in treating Gunmam (Anti-ulcer Activity).

## AIM AND OBJECTIVE

The aim of this dissertation is to study the effect of “Annabedhi” in the form of Chenduram for the treatment of Gunmam on the basis of Anti-ulcer action.

Now in our siddha system metal and thathu therapy was introduced by our Siddhars since it is easy to preserve smaller in dose and longer in self life.

Gunmam is an important disease described in siddha literatures. It is essential to find out a simple drug to over come Gunmam. The drug should be easily available, economic, easily administered and also effective in smaller dose. So the author has selected this drug for the dissertation purpose. The Chenduram was prepared based on the reference in siddha literature.

**(Ramadevar Yenum Yakobhu Vaithiya Sindhamani – 700. Page No. 88)**

Keeping this in mind the author has selected Annabedhi Chenduram to review it in the following aspects.

1. Chemical aspect
2. Gunapadam aspect
3. Bio-Chemical aspect
4. Pharmacological analysis
5. Microbiological analysis
6. Heavy metal anlaysis
7. Toxicity study
8. Clinical assement
9. Bio-Statistical analysis.



## REVIEW OF LITERATURE

### CHEMICAL ASPECT

- **Ferrous sulphate ( $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ )**
- **Systematic name** : Iron (II) Sulphate
- **Synonyms** : Ferrous  
Green vitriol  
Copperas  
Melanterite  
Szomolnokite

#### Physical and Chemical properties

- **Molecular formula**

$\text{FeSO}_4 \cdot \text{H}_2\text{O}$  - Monohydrate

$\text{FeSO}_4 \cdot 4\text{H}_2\text{O}$  - Tetrahydrate

$\text{FeSO}_4 \cdot 5\text{H}_2\text{O}$  - Pentahydrate

$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$  - Heptahydrate.

The Heptahydrate is called green vitriol.

- **Molar Mass :**

169.923 g/mol - Monohydrate

224.120 g/mol - Tetrahydrate

242.135 g/mol - Pentahydrate

278.05 g/mol - Heptahydrate

- **Appearance** - Blue/ green (or) White crystals
- **Crystal structure** - Monoclinic
- **Density** -  $1.898 \text{ g/cm}^3$
- **Solubility** - Soluble in water
- **Melting point** -  $64^\circ\text{C}$
- **Boiling point** -  $300^\circ\text{C}$

#### **Production:**

- In the finishing of steel prior to plating or coating, the steel sheet or rod is passed through pickling baths of sulphuric acid. This treatment produces large quantities iron (II) sulphate as a waste product.
- Iron (II) sulphate is prepared commercially by oxidation of pyrite or by treating iron with sulphuric acid.
- It can be made by combining iron with sulphuric acid or by oxidizing iron pyrites, a compound of iron and sulphur.
- It is salt usually obtained by the decomposition of iron –pyrites by the action of atmospheric moisture. It can be obtained also by dissolving iron wires in sulphuric acid by the aid of heat. It occurs in pale bluish green oblique rhombic prisms.

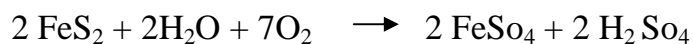
- Its taste is very astringent or styptic and without any odour, acid reaction, soluble in water, insoluble in alcohol. It is a valuable haematinic tonic and astringent.

**- Indian Materia Medica Vol - II (Page - 63)**

- It is obtained as a by product of industrial processes using iron ores that have been treated with sulphuric acid. The sulphate salt is used as a starting material for the manufacture of various other iron (II) compounds and as a reducing (deoxidizing) agent in chemical processor.

**- The New Encyclopaedia Britannica Vol –V (Page - 431)**

- Ferrous sulphate may be obtained by dissolving scrap iron in dilute sulphuric acid but in the laboratory it is generally obtained from the kipp's waste which contains ferrous sulphate with free sulphuric acid.
- The liquid is concentrated in the presence of scrap iron which reacts with excess of sulphuric acid to give ferrous sulphate, and the nascent hydrogen liberated reduces any ferric salt present to ferrous. On filtering and allowing to stand  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$  crystallizes out. Ferrous sulphate containing 6, 5, 3, 2, 1 or no molecules of water of crystallization is also known.
- In commerce, ferrous sulphate is obtained by exposing big heaps of moist iron pyrites to air when slow oxidation takes place.

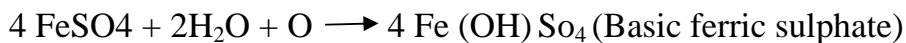


- From the solution obtained crystals of ferrous sulphate are obtained as in the laboratory method.

**- Text Book of Inorganic Chemistry (page -834)**

### Properties and Uses:

- Light green crystals of ferrous sulphate lose water and turn brown on exposure to air due to oxidation.



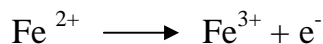
- On heating it decomposes as follows



- With nitric oxide, ferrous sulphate turns black due to the formation of nitroso ferrous sulphate,  $\text{FeSO}_4 \cdot \text{NO}$  (destroyed by heat)

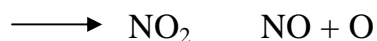
### Reducing Property

- It is a good reducing agent. By losing an electron it is oxidized to ferric sulphate as

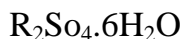


For example, it decolorises acidified potassium permanganate and turns acidified potassium dichromate green.

- Nitrogen dioxide, when passed through its solution is first reduced to nitric oxide and then gives black  $\text{FeSO}_4 \cdot \text{NO}$ .



- It forms double salts with sulphate of alkali metals. These can be represented by the general formula



- With ammonium sulphate, it gives ferrous ammonium sulphate, (Mohr's salt)  $FeSO_4 \cdot (NH_4)_2SO_4 \cdot 6H_2O$ . This is not oxidized so readily as ferrous sulphate and is, therefore used in volumetric analysis in preference to ferrous sulphate.

### **-Inorganic Chemistry (Page-834)**

#### **Uses:**

- Ferrous sulphate is also an additive found in various foods, including the enriched cornmeal that serves as a key ingredient in cheetos.
- Ferrous sulphate is also used to treat iron deficiency anaemia. Side effects of therapy may include nausea and epigastric abdominal discomfort after taking iron. These side effects can be minimized by taking ferrous sulphate at bedtime.

#### **Commercial Uses:**

- Ferrous sulphate can also be used to color concrete. It is best used for newly curved concrete. Mix with water until saturated and spray onto concrete. The color will range from yellow to rust.
- In horticulture it is used as a lawn conditioner and moss killer.

- Ferrous sulphate is used to dye fabrics and leather and to make ink.
- Used to purify water, and as a disinfectant, wood preservative and weedkiller.
- It is used for making fertilizers and pesticides and for iron electroplating.

- **An Encyclopedia of Chemicals and Drugs and Biologicals.**

- It is also used in the preparation of Mohr's salt, ferric oxide, ferric alum and nitric oxide.

- **Textbook of Inorganic Chemistry**

**Medicinal uses of ferrous sulphate**

1. Bhasma is prepared by taking equal quantities of iron sulphate and sulphur, reducing them to fine powder. To this is added triphala, black pepper, honey and ghee and the whole is triturated.

**Dose** :  $\frac{1}{4}$  to 2 grains, (32.5mg-130mg) twice a day with honey.

**Indication** : Enlargement of liver

2. Iron sulphate on account of its astringent properties used in anaemia, malaria, kala azar.
3. A grain of ferrous sulphate in an ounce each of omumwater and infusion of chiretta thrice a day after food.

**Indication** : Neurolgic (or) Rheumatic attacks and anemia

4. 24 grains of ferrous sulphate and 30 grains of black pepper and cinnamon powder, made into 12 pills. With a sufficient quantity of honey and given in doses of one pills twice a day.

**Indication:** For anaemic females suffering from chorea, leucorrhoea and amenorrhoea.

5. Externally iron sulphate is used in skin diseases, painful syphilitic ulcer eczema and pruritis intertrigo.
6. In bleeding piles and prolapsus of the rectum daily enemata of the simple solution of sulphate (3 grains to an ounce of water) are serviceable.
7. In chronic skin diseases an ointment made of iron pyrites and ghee is used with benefit.

#### **- Indian Materia Medica Vol-II (Page -62)**

#### **Annabethi in Ancient Literature:**

Annabethi is one of the ancient native minerals known to man from the historic past. It is indeed the first antiseptic invented by the man in the history of medicine.

The sangam tamils used this drug externally as one of the 'Anjanas' for painting the eye brows in combination with neelanchanam and also making a special paint known as red unguent (shempanchi kuzhambu) for decorating their feet and breast (U.V Swamynatha Iyer 1948).

In the field of siddha, earliest references to the external use of Annabethi are found in the “Silappathikaram” as an antiseptic cosmetic to the eyes. Similarly the other epics ‘Perunkathai’ and seevaha sindhamani” refer to the use of green vitriol in the art of cosmetics. The credit of the earlier citations of the internal use of Annabethi goes to Bohar and his school of thought. Bohar records this drug under records this drug under several synonyms of ‘kaseesam’ etc.

Bohar classified under the group of ‘uparasa’ and makes a reference to 2 types of ‘kaseesam’ the green variety as ‘valuka kaseesa’ and yellow variety as “puspha kaseesa”.

These on term ‘Athikkal’ attributed to the annabethi is indicative of the ancient origin of this mineral from the rocks. He also advocates these minerals for the art of alchemy by the term vethikkinamum. These concepts are further reiterated by the disciples of Bohar like chattamuni and yoogimuni.

There on, the pharmaceutical jugglar of siddha medicine enumerates a number of preparations based on Annabethi as an ingredient.

Ramadevar in his sinthamani refers to a number of synthetic preparations (Vaipu charakku) of this drug from iron pieces and crude sulphuric acid.



The later days writers like Kannusamy Pillai, Murugesu Mudhaliar enumerates number of medicinal application of this drug in case of various ailments.

### **Types of Annabethi:**

- I. Annabethi is a native mineral generally leafy green in colour with a crystalline lustre granular and earthy in texture, predominantly astringent slightly sourish in taste, largely available from 'sourashtra' along with alum shales. Therapeutically a cure for vathakaba condition and grey hair and germs. The greensheen when heated or exposed to air is lost due to efflorescence iron-sulphate ( $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ ) with the impurity of iron oxides and magnesia in the ratio of 39:36:23 (Ball)- Dhatukaseesam (Pirappu Annabethi).
- II. An yellowish orange dye extracted from the vegetable drug of Rudanti commonly available in the salty peatmarshes and saline swamps throughout our country. It is commonly known as Sundew insectivorous in habit. The dye colours the paper and fabrics reddish orange pungently hot and slightly sourish in taste and vesicating in action therapeutically a cure for leucoderma and tuberculosis, plumbagin -  $\text{C}_{11}\text{H}_8\text{O}_3$  (Shchukina L.A., et.al -1948) Pushpakaseesam.
- III. **Yellowish green in colour :**

Crystalline appearance less of astringent taste lacking in impurities synthetically prepared and available in the market of south India in a pure form- Valukakaseesas (Vaippu Annabethi).

## GUNAPADAM ASPECT

### அன்னபேதி

(அன்ன+பேதி) அன்னத்தைப் பேதிப்பது. இது ஓர் கடைச்சரக்கு. இது உபரசம் 120ல் ஒன்று என்பதை.

“கண்டு கொள் உபரசத்தின் வகையைச் சொல்வேன்

தூளான கற்பூரச் சிலைக் கற்காவி

சுத்தமணல் செம்மண்ணுஞ் சன்னபேதி”

- போகர் காரசாரத்துறை

என்பதால் அறியலாம்

### அன்னபேதியின் வேறுபெயர்கள்:

“அன்னபேதியை அறையக் கேளு

ஆதிக்கல் நாதமாம் அன்னக்காலன்

கன்னமாம் பேதியாங்கல் சவடுநாதங்

கனமான களிம்புதான் கல்லுவேகஞ்

சின்னமாம் பேதியாமலை வீரியமாகும்

திராவகத்துச் சுடுங்காரி பேதியாகும்

மவ்வனமாம் பேதியா மலைருதுவுமாகு

மாசற்ற வன்னமென்ற பேதிதானே”

### உரை:

கல்நாதம், அன்னக்காலன், கல்சவடுநாதம், களிம்பு, கல்வேகம், மலைவீரியம், திராவகத்துக் சுடுங்காரபேதி, மலைருது

- போகர் நிகண்டு 1200 (மூலமும் கருத்துரையும்)-(பக்கம்- 24)

## வாசகின பேதி (அன்னபேதி)

“சக்கரமாம், அதிரபேதியன்ன பேதி

பேதி, அதீதபேதி, சத்தபேதியென்றும்

நக்கரமாம், நவபேதி, சுகபேதியென்றும்

நன்றாக வசனித்தோம், முயல்பேதியென்றும்

அக்கரமாம், சரக்கினுட பேரெல்லாந்தான்

அறிந்து, வெகு இதுதள்ளி ஆய்ந்தபேரெல்லாம்

வர்க்கமெல்லாம் மணிபேரல, பொறுக்கிச் சேர்த்து

வசனித்தோம், வாசகின் பேதியின் பேரே”.

**உரை:**

சக்கரம், அதிரபேதி, அதீதபேதி, சத்தபேதி, நவபேதி, சுகபேதி,  
முயல்பேதி

- பஞ்ச காவிய நிகண்டு- (பக்கம் - 128)

## Synonyms

**Sans** - Kasisa, Hura – tutia

**Eng** - Green vitriol, green copperas; Copperas of  
commerce, Sulphates of iron, Cruae ferrous sulphate,  
Iron sulphate, salt of steel

**Fr** - Sulphate ferreux

**Ger** - Schwefelasaures Eisenoxydul

**Ben** - Hira-kas, Hirakosis

**Can & Kon**- Hirakasa

**Arab** - Zaje-Asfara

|              |   |
|--------------|---|
| <b>Pers</b>  | - Zankurmadani, Tutiya – saba                         |
| <b>Hind</b>  | - Haratutia, Kasis, Hira-kasis (or) Heera Kasus, kahi |
| <b>Guj</b>   | - Hara – Kasis; Kashis                                |
| <b>Punj</b>  | - Sang-i-sabz   |
| <b>Can</b>   | - Annabedi  |
| <b>Tam</b>   |   |
| <b>Tel</b>   |   |
| <b>Mal</b>   |   |
| <b>Malay</b> | - Madukalpa   |
| <b>Tel</b>   | - Tagramu   |

#### - Indian Materia Medica Vol-II(Page-63)

#### அன்னபேதி தோற்றம்

“வேதையான அன்னமென்ற பேதி தானும்  
விளங்கியதோர் உற்பத்தி சொல்லக்கேளு  
மாதையான மலையினுட ருதுவுபொங்கி  
மசற்ற கிரணத்தால் பொங்கி நீறும்  
பாதையான மலைச்சவுடு என்று பேரு  
பாங்கான மூன்றுவித வண்ண மாகும்  
காதையான கசீசமென்று பேரு  
கருப்புமஞ்சள் வெள்ளைநிற மாகுங் கானே”

- போகர் 7000 - மூன்றாம் ஆயிரம்-(பக்கம் 231)

- இரும்புக் கம்பியுடன் கந்தகத்திராவகம் சேர்த்துச் செய்கின்ற இச்சரக்கு,கட்டிகளாயும் பச்சைநிறமாயும் இருக்கும். அன்னபேதி என்ற கசீசம்மலையில் உற்பத்தியாகிறதென்று போகர் நூல் கூறும்.

- குணபாடம் - தாது ஜீவ வகுப்பு-(பக்கம் 395)

**வகைகள்:**

4 வகைகள் உண்டு. அவை,

1. அஸ்திபேதி
2. சொர்ணபேதி
3. மாங்கிஷபேதி
4. சகஸ்திரபேதி

- போகர் நிகண்டு 1200. (மூலமும் கருத்துரையும்)-(பக்கம் - 46)

**வேறு**

அன்னபேதி 3 வகைகளாகவும் உண்டு. அவை,

1. அஸ்திபேதி
2. சொர்ணபேதி
3. மாங்கிஷபேதி

- சட்டை முனி நிகண்டு 1200-(பக்கம் 39)

**வேறு**

அன்னபேதி 2 விதங்களாயிருக்கின்றன. அவை

1. வாலுகாசீசம் - கருநிறமுடையது
2. புஷ்பகாசீசம் - கபிலவர்ணமுடையது

இதில் வாலுகாசீசம் மேன்மையானது

- கோஷாயி - அனுபோக வைத்திய பிரம்ம ரகசியம், பாகம் - 2- (பக்கம் 185)

**வேறு**

அன்னபேதி நிறத்தின் அடிப்படையில் 3 விதமாகவும் உள்ளது. அவை

1. கறுப்பு
2. மஞ்சள்
3. வெள்ளை

என்று போகர் நூல் கூறும்.

- குணபாட தாது-ஜீவ வகுப்பு (பக்கம் 396)

### அன்னபேதி சத்துவபானம்

சிகப்பு, மஞ்சள், வெண்மை கருப்பயென்கிற நிறத்தால் அன்னபேதி 4 விதங்களென்று கூறப்பட்டிருக்கின்றது. அவைகளை மனிதன், குதிரை, மயில், பசு, மீன் இவைகளின் பிச்சுகளால் பிரத்தியேக பிரத்தியேகமாய் அரைத்து பிறகு, பேய்பீர்க்கன் இலைச்சாறு, பேயாவிரை இலைச்சாறு, தேன், நெய், வெங்காரம், குண்டுமணிப்பருப்பு, வெல்லம் என்பவைகளுடன் அரைத்து வில்லை செய்து, யஷ்டிகாயந்திரத்தில் வைத்து ஊதினால் அதில் சத்து இறங்கும். அந்த சத்தை சூரணித்து புடமிட்டால் செந்தூரிக்கும்.

- கோஷாயி அனுபோக வைத்திய பிரம்ம ரகசியம் பாகம் -2- (பக்கம் 185)

### அன்னபேதிச் சத்து

அன்னபேதியினின்று இறக்குஞ் சத்து, இதனால் லிங்கம் மெழுகாகும்

- டி.வி. சாம்பசிவம் பிள்ளை அகராதி-பாகம் - 1-(பக்கம்-537)

### சுத்தி

- அன்னபேதியை நீரில்கரைத்துச் சிறிதளவு கந்தகத் திராவகம் விட்டு வடிக்கட்டி, உப்பு உறையும் பக்குவத்தில் காய்ச்சிக் கொள்வதே சுத்தியாகும்.

- குணபாட தாது-ஜீவ வகுப்பு (பக்கம் 395)

- கரிசனாங்கண்ணி இரசத்தில் வேகவைத்தால் சுத்தியாகும்
- பழச்சாற்றில் 1 நாள் முழுவதும் ஊறவைத்து தண்ணீர் வற்றுகிற வரையிலும் வைத்து எடுக்க சுத்தியாகும்.

- கோஷாயி அனுபோக வைத்திய பிரம்ம ரகசியம்- பாகம்-1 (பக்கம் 42)

- அன்னபேதியை புது ஓட்டிலிட்டு சிவக்க வறுத்து எடுத்தால் சுத்தியாகும்

- கண்ணுசாமி சிகிச்சாரத்ன தீபம் என்னும் வைத்திய நூல் (பக்கம் 42)

**பண்பு**

அன்னபேதி நீரில் கரையும், சாராயத்தில் கரையாது. இதன் மேல் காற்றுப்பட்டால் வெண்மையான தூளாய்விடும்.

- குணப்பாடம். தூது ஜீவ வகுப்பு-(பக்கம் 396)

**சுவை:**

துவர்ப்பு

**வீரியம் :**

வெப்பம்

**செய்கை:**

உடல் உரமுண்டாக்கி, துவர்ப்பி, ருதுஉண்டாக்கி, நாற்றமகற்றி, புழுக்கொல்லி, முறைவெப்பகற்றி. இதனை வெளியில் ஆட்சிபுரிந்தால் துவர்ப்பி செய்கையும், வெப்பமுண்டாக்கிச் செய்கையும் உண்டு.

**பொதுக்குணம்:**

“முளைவிரணஞ் சூலைமந்த முட்டாமைக் கட்டி  
விளையறன்ம கோதரநோய் வீட்டும் - வளைமலைபோற்  
காட்டுமன்னந் தன்னைக் கணத்திற் சலமாக்கிக்  
காட்டுமன்ன பேதியது காண்”

- அன்னத்தை நீராய்கரைக்கின்ற அன்னபேதி முளைக்கட்டி, சூலை, அஜீரணம், பாய்கின்ற ஆமைக்கட்டி. வீறியசலோதரம் இவைகளை நீக்கும்.
- மேலும் இதனைப் பாண்டு, சூதகப்பாண்டு, சூதக்கட்டு, கருப்பப்பிரமேகம், காய்ச்சல் கட்டி, முறைச்சுரம், எழுஞாயிறு, நாட்பட்ட கக்கிருமல். தட்டைக் கிருமி ரோகம் முதலிய பிணிகளுக்கு உள்ளாக்கும், அக்கி, மேகவிரணம், சீமூலம், ஆசனவாய் வெளிப்படல், கருப்பவிரணம் முதலிய பிணிகளுக்கு

மேலுக்கும் உபயோகிக்கலாம். இதில் அயம் இருப்பதனால் இரும்பினால் தீரும் பிணிகள் நீங்கும்.

- குணபாடம் - தாது ஜீவவகுப்பு - (பக்கம் 396)

- பலவீனம், பாண்டு, வெள்ளை முதலிய நோய்களுக்கு இதைச் செந்துரமாகச் செய்து உபயோகிப்பதுண்டு. நாட்பட்ட முறைச்சரம், குளிர்சரம், குழந்தை கக்கிருமல், அசீரணம், சீதபேதி கிருமிநோய் முதலியவைகளுக்கு உபயோகிக்கலாம்.

- டி.வி. சாம்பசிவம்பிள்ளை அகராதி , பாகம் 1-(பக்கம்-537)

- கண்களுக்கு நன்மை செய்யும்படியானதாயும், ரோமங்களை நாசம் பண்ணும்படியானதாயும், விஷதோஷம், வாததோஷம், சிலேஷ்மதோஷம், ரணதோஷங்களை போக்கடிக்கும்.

- கோஷாயி - அனுபோக வைத்திய பிரம்ம ரகசியம்- (பக்கம்- 185)

- அயமருந்துகளுக்குள் இதுதான் வெகுசிரேஷ்டமானது. இது பாண்டு, மதுமூத்திரம், காசம், பலவீனம், சூதகக்கட்டு முதலியவற்றிற்கு இவற்றை கொடுத்தால் தவறாமல் குணத்தைக்காட்டும்.

- பிராணரசஷாமிர்தசிந்து -(பக்கம் 89)

**அளவு:**

1 (65 மி.கி) முதல் 3 அரிசியெடை (195 மி.கி). அதிக அளவில் கொடுத்தால் கெடுதலை விளைவிக்கும்

**அன்னபேதியை உபயோகிக்கும்பொழுது கவனிக்க வேண்டுவன**

- அன்னபேதியை அருந்தி வருங்காலத்து மலம் கறுத்துக் கெட்ட நாற்றத்தோடிருக்கும்.
- அன்னபேதியைச் சாப்பிடும் பொழுது, விடாமுயற்சியாய், வாரத்திற்கொருமுறை விட்டு விட்டுச் சாப்பிட வேண்டும்.



- அன்ன பேதியை ஆரம்பத்தில் அதிக அளவில் கொடுக்கக்கூடாது. அதிகம் கொடுத்தால், மலம் மிகவும் கறுத்து மலபந்தம் உண்டாகும்.
- அன்னபேதியை அருந்திக்கொண்டு வரும்பொழுது பத்து நாளைக்கொருமுறை பேதிக்குக் கொடுத்தால் நல்ல குணமுண்டாகும்.
- அன்னபேதியைச் சாப்பிடும் பொழுது புளிப்பையும், புளிப்புள்ள பழங்களையும் முற்றிலும் நீக்கி, அயத்திற்குக் கூறிய பத்தியம் காத்தல் வேண்டும்.
- குழந்தைகளுக்கு அன்னபேதியைக் கொடுக்க வேண்டிய அவசியமிருந்தால் குறைந்த அளவில் கொடுக்கவும்.
- அன்னபேதியை உணவிற்கு பிறகே அருந்த வேண்டும்.

#### குன்மத்திற்கு அன்னபேதி சேரும் மருந்துகள்

##### 1. சங்கத் திரவாகம் :

|               |   |         |
|---------------|---|---------|
| அன்னபேதி      | : | தோலா 24 |
| வெடியுப்பு    | : | தோலா 24 |
| படிகாரம்      | : | தோலா 12 |
| இந்துப்பு     | : | தோலா 12 |
| கறியுப்பு     | : | தோலா 8  |
| மயில் துத்தம் | : | தோலா 8  |
| நவாச்சாரம்    | : | தோலா 4  |
| வெங்காரம்     | : | தோலா 4  |
| பூநீர்        | : | தோலா 4  |

இவைகளில் அன்னபேதியைச் சிவக்க வறுத்தும் மயில்துத்தத்தை வெளுக்க வறுத்தும், மற்றவற்றைக் கல்லுரலிலிட்டு இடித்தும், எல்லாவற்றையும் ஒன்று கலந்து வாலையிலிட்டு திராவகம் வாங்கவும். இதனில் வேளைக்கு 5

முதல் 10 துளி வரையில் ஒரு அவுன்ஸ் ஜலத்தில் விளாவிக் கொடுக்க ஜவரக்கட்டி எனப்பெயர் மேவிய ஈரல்களின் வீக்கம் 40 நாள் உபயோகத்திற் குணமாகும். இருபது நாளில் குணமடையுடம் குறியைக் கவனிக்கலாம். இத்தகைய வீக்கத்தின் நிமித்தம் அடிக்கடிவரும் ஜ்வரமும் குணமாகும். ஜ்வரமிருக்கும் போது மாத்திரம் அதனை பரிகரிக்க தக்க ஏதேனும் ஒரு அவிழ்த்ததைக் கொடுத்து நிவர்த்தி செய்துகொண்டு பின்னர் திராவகத்தை ஆரம்பித்தல் வேண்டும். இங்கனம் இருபது நாள் சாப்பிட்ட பின்னர் ஜ்வரம் இடையில் வருவதற்குச் சிறிதும் நியாயமில்லை. இதுவேயுடமன்றி இத்திராவகத்தை குன்மம், வாய்வு, சூதகவாய்வு, வயிற்று வலி முதலியவைகளுக்குங் கொடுக்கத் தீரும்.

**பத்தியம் :**

தேகத்திற்கு தக்கபடி ஆகாத பதார்த்தங்களைத் தள்ளி மற்றவைகளைக் கொள்க. மருந்து சூடு செய்வதாக உணர்ந்தால் இரவில் பால் தாராளமாய் விட்டு அன்னம் கொள்க அதிலும் குணமில்லாவிடின் மருந்தினளவைக் குறைத்துக் கொள்க.

- சிகிச்சாரந் தீபம் என்னும் வைத்திய நூல் பக்கம் 290.

## 2. மகா திராவகம்

ஆடாதோடை, புளியம்பட்டை, பூசனிக்கொடி, சாரணைவேர் இவைகளின் சுட்ட சாம்பல் வெவ்வேறு பாண்டத்திலிட்டு சாம்பல் எடைக்கு நான்கு மடங்கு ஜலம் விட்டுக் கரைத்து மூன்றாவது நாள் அசையாமல் தெளிவை வாங்கிக் காய்ச்சிக் குழம்புப் பதத்தில் எலும்பிச்சம்பழ ரசம் விட்டு கரைத்து ரெட்டு துணியில் வடித்துப் பீங்கான் தட்டுகளில் விட்டுக் சுடும் இரவியில் வைக்க உப்பாகும். இங்ஙனம் சேகரித்த உப்பு ஒவ்வொன்றும் பலம் 2 , எவச்சாரம் பலம் 2, உழுமண் பலம் 1, நவச்சாரம் பலம் 1, சையிந்தலவணம்

தோலா 4, வெங்காரம் தோலா 2, அன்னபேதி தோலா 1, சங்கு சுண்ணம் தோலா 1, உன்னிப்பாஷாணம் தோலா 1, கடல் நுரை தோலா 1 இவைகளை இடித்து வாலையில் போட்டுத் திராவகம் வாங்கவும். தேக திட்டத்திற்குத் தக்கவாறு 1 முதல் 2 துளி ஒரு அவுன்ஸ் ஜலத்தில் விளாவிக் கொடுக்க குன்மம், பீலிகை, நீராமை, கவுசி, கெண்டை, பெருவயிறு, வாயுதிரட்சி, மகோதரம் முதலான ரோகங்கள் தீரும்.

### 3. கண்டரச பற்பம்

இதற்குச் சங்கு திராவக முறை :

|             |   |                       |
|-------------|---|-----------------------|
| வெடியுப்பு  | : | 24 பலம் (840 கிராம்)  |
| இந்துப்பு   | : | 16 பலம் (560 கிராம்)  |
| கல்லுப்பு   | : | 8 பலம் (280 கிராம்)   |
| நவச்சாரம்   | : | 20 பலம் (700 கிராம்)  |
| சீனாக்காரம் | : | 40 பலம் (1400 கிராம்) |
| பூநீறு      | : | 8 பலம் (280 கிராம்)   |
| வெண்காரம்   | : | 8 பலம் (280 கிராம்)   |
| நீலம்       | : | 2 பலம் (70 கிராம்)    |
| அன்னபேதி    | : | 2 பலம் (70 கிராம்)    |

செய்முறை :

இவை எல்லாவற்றையும் தனித்தனியே பொடித்துத் தூள்செய்து பிறகு ஒன்றாகச் சேர்த்து நன்றாக மசியும் படியாக இடித்து எட்டுப்பங்கு செய்து ஒரு பங்கை வாலையிலிட்டு திராவகம் இறக்கவேண்டும். இறங்கின திராவகத்தை மறுபங்கிற் செலுத்தி முன்போல் திராவகமிறக்க வேண்டும். இவ்விதம் மடக்கி மடக்கி எட்டுத்தடவை திராவகமிறக்கி அரக்குக்குப்பியில் பத்திரபடுத்தவும்.

**அளவு :** 1 முதல் 2 அரிசி எடை

**அனுபானம் :** வெல்லம், சுக்குத்தூள், வெண்ணெய், நெய்  
முதலியவைகளாகும்.

**தீரும்நோய்கள் :**

அட்டகுன்மம், சூசிகாநோய், காமாலை, பாண்டுநோய், மகோதரம், வாயுநோய்கள், உதிரவாயு, நாடிவாயு, சூலைகள், மலசல பந்தம், கிராணிநோய், மேகவாயு, முத்தோடங்கள், சன்னிநோய்கள், கிரந்திநோய்கள், கைகால்முடக்கல், அண்டவாயு, மூலவாயு முதலிய அநேக சாண்டி நோய்களும் தீரும்.

**பத்தியம்:**

இது இரசம் சார்ந்த மருந்தாகையால் புளிப்புப் பொருள்களை நீக்கி உபயோகிப்பது உத்தமம். வாலிபர்கள் பெண்கள் முதலியவர்களுக்கும் இலேசான பத்தியம் வைத்து உபயோகிக்கலாம்.

**4. அட்டகுன்ம இலேகியம் :**

தைவேளை, பிரண்டை, குப்பைமேனி, இவற்றின் சாறு வகைக்கு 1 படி ஒன்றாய் கலந்து காய்ச்சி குழம்பு பதத்தில் கல்வத்திலிட்டுப் பதினைந்து பலம் இலுப்பைப் அரப்பை சுட்டகரியையும் திரிகடுகு, ஓமம், வகைக்கு 1 பலம் , கடுகுரோகிணி, அன்னபேதி, குரோசானி, ஓமம், காயம் வகைக்கு 3 கழஞ்சு இவற்றையும் கூடப்போட்டு மெழுகுபோல் அரைத்துப் பின்பு, ஐந்து பலம் பனைவெல்லத்தைச் சேர்த்துப் பிசைந்து தான்றிக்காய் போல் குளிகை செய்து வேளை ஒன்றுக்கு ஒரு உருண்டை வீதம் சாப்பிட்டு வர அண்டவாதம் , குன்மம், கெண்டை, உப்பிசம், பெருவயிறு, வாயுத்திரட்சி மலக்கட்டு , வாய்நீர், இரத்தம் வடிதல், சகனவாதம், ஆகிய நோய்கள் தீரும்.

**பத்தியம்:**

புளிப்பு தள்ளவும்.

## 5. மகா சங்க திரவாகம் :

|            |   |          |
|------------|---|----------|
| அன்னபேதி   | : | 24 பலம்  |
| இந்துப்பு  | : | 12 பலம்  |
| படிகாரம்   | : | 12 பலம்  |
| வெடியுப்பு | : | 12 பலம்  |
| துருசு     | : | 8 பலம்   |
| நவாச்சாரம் | : | 4 பலம்   |
| வெங்காரம்  | : | 4 பலம்   |
| பூநீறு     | : | 4 பலம் . |

இவற்றுள் அன்னபேதியை சிவக்க வறுத்தும் துருசை வெளுக்க வறுத்தும் இதர உப்புக்களுடன் கூட்டி இடித்து தூளாக்கி கலந்து ஒரு மட்கடத்தில் போட்டு அதற்கு பொருத்தமான மண்வாலையை செருகி மண்சீலை 7 செய்து அடுப்பிலேற்றி முறையில் திராவகம் வாங்கி கால்கார்க்கு இட்ட சீசாவில் பத்திரப்படுத்துக வேண்டும் போது இந்த திரவாகத்தில் வேளைக்கு 3 வயதுக்குட்பட்ட குழந்தைகளுக்கு ஒரு துளியாகவும் அதற்குமேல் 5 வயது வரையில் 2-3 துளியாகவும் அதற்குமேல் 19 வயது வரையில் 5-6 துளியாகவும் இருபது வயதுக்கு மேற்பட்டவர்களுக்கு 10 துளியாகவும் ஒரு அவுன்ஸ் சலத்தில் கலந்து தினமும் 2 வேளை கொடுக்கவும் இப்படி 7,14 நாள் கொடுக்க குன்மம், அஜீரணம், குடலிரைச்சல், சூதகவாயு தீரும்.

## 6. பஞ்ச பாடாணச் செந்தூரம்:

|            |           |
|------------|-----------|
| வெடியுப்பு | - 10 பலம் |
| அட்டுப்பு  | - 5 பலம்  |
| சீனம்      | - 5 பலம்  |

வெண்துருசு - 7 பலம்

நவாச்சாரம் - 7 பலம்

**அன்னபேதி** - 2 பலம்

கந்தகம் - 3 பலம்

இவை எல்லாம் சேர்ந்த எடைக்கு பழம் புளி சேர்த்து இடித்து ஒட்டிலிட்டு தீக்கொலுத்த எரிந்துச் சுண்ணமாகும். அதைப் பீங்கானில் வைத்து மூடி மண்ணில் புதைத்து 1 மண்டலம் (48 நாட்கள்) சென்று எடுக்கச் செய்நீர் இறங்கியிருக்கும்.

இரசம், கந்தி - 20 வராகன்,

தாளகம் - 10 வராகன்

மனோசிலை - 5 வராகன்

இலிங்கம் - 2 ½ வராகன்

இவற்றை தூய்மை செய்து மேற்படி செய்நீரால் மூன்று நாள் ஆட்டி உலர்த்திக் கோழிமுட்டை ஒட்டுக்குள் அடைத்து அதற்கு மாக்கல்லால் ஏழு சீலை செய்து காயவைத்து நான்கு விரல் கடை மணல் மேல் வைத்துத் தீபாக்கினி, கமலாக்கினி, காடாக்கினி வகைக்கு 10 நாழிகை எரித்து ஆற்றி எடுக்கச் செந்தூரம் இருக்கும். அதில் ஒரு காசு எடை வீதம் தக்க துணை மருந்துகளில் உட்கொள்ள,

**தீரும் நோய்கள்:** குன்மம் கிராணி

வாயு மேகம்

நீர்க்கட்டு கைகால் முடக்கு

நீர்ச்சுருக்கு தேமல், அண்டவாதம்

## 7. நாயுருவி உப்பாதிக் குழம்பு:

|                |              |
|----------------|--------------|
| நாயுருவியுப்பு | அன்னபேதி     |
| வாழையுப்பு     | சத்திச்சாரம் |
| தாழையுப்பு     | தெங்கினுப்பு |
| வீரம்          | பூரம்        |
| நவாச்சாரம்     | பூநீறு       |
| இந்துப்பு      | வளையலுப்பு   |
| வெண்நாபி       | சங்கு பற்பம் |
| கந்தகம்        | திரிகடுகு    |

- 35 கிராம்

இவைகளை கல்வத்திலிட்டுப் பொடித்து, சாராயம், எருக்கம்பால், கள்ளிப்பால் இவை வகைக்கு 375 மி.லி முறையே விட்டரைத்து ஒரு மட்பாத்திரத்தில் சேர்த்து நெங் 375 மி.லி, தேன் 375 மி.லி சேர்த்து மெழுகு பதம் வரும் வரையில் கொதிக்க வைத்து ஆறவிட்டுப் பரணியில் அடைக்கவும். 130 ம.லி, லேகியத்துடன் தாம்பிரச் செந்தூரம் 65 மி.கி சேர்த்து வெள்ளைச் சர்க்கரையில் கொடுக்க, எண் வகை குன்மம், வாய்வு முதலியவைகள் தீரும்.

கொள்ள வேண்டிய நாள் - ½ மண்டலம்.

## 8. தசலவண திராவகம்:

|                |   |                                |
|----------------|---|--------------------------------|
| அளவு           | : | 5 முதல் 10 துளிகள்             |
| அனுபானம்       | : | ஜலம் / 2 வேளை                  |
| தீரும் நோய்கள் | : | சோபை, சூலை, குன்மம், பெருவயிறு |

- கண்ணுசாமியம் வைத்திய சாகரம் (பக்.155)

அன்னபேதி சேரும் பிறமருந்துகள்

1. அன்னபேதிச் செந்தூரம் - குணபாடம். தாது ஜீவ வகுப்பு-(பக்கம் 397)
2. வெடி அன்னபேதிச் செந்தூரம் - குணபாடம். தாது ஜீவ வகுப்பு-  
(பக்கம்- 397)
3. சங்கு திராவகத் தீநீர் - உயிர்காக்கும் சித்த மருத்துவம்- (பக்கம் - 511)
4. ஸ்ரீதந்த சூரணம் - கோஷாயி அனுபோக வைத்திய பிரம்ம ரகசியம்  
பாகம் -1-(பக்கம்-115)
5. அன்னபவழச் செந்தூரம் - அனுபோக வைத்திய நவநீதம்- பாகம் - 3  
(பக்கம் - 104)
6. மன்மதசிந்தாமணி - ஆத்மரட்சாமிர்தமென்னும் வைத்திய சாரசங்கிரகம்-  
(பக்கம் - 457)
7. மூசாம்பர மெழுகு - கண்ணுசாமிப் பரம்பரை வைத்தியம் -(பக்கம் 224)
8. பேதி வீர செந்தூரம் - அனுபோக வைத்திய நவநீதம்- பாகம் - 3  
(பக்கம்104)
9. தாம்பிர அன்னபேதிச் செந்தூரம் - கண்ணுசாமிப் பரம்பரை வைத்தியம் -  
(பக்கம் 325)
10. பேதிச் செந்தூரம் - அனுபோக வைத்திய நவநீதம்-(பக்கம் 103)
11. வெடியுப்பு அன்னபேதி மாத்திரை - பதார்த்த குணவிளக்கம்- (பக்கம் 78)
12. கபரிமெழுகு - சிகிச்சாரத்நதீபம் என்னும் வைத்திய நூல் (பக்கம் 269)
13. செந்தூரத் திராவகம் - குணபாடம் தாது ஜீவ வகுப்பு-(பக்கம் 39)
14. கடுக்காய் மாத்திரை - Pharmacopoeia of Hospital of Indian  
Medicine (Page-80)
15. கோடாகூரிக்குளிகை - சித்த வைத்தியத்திரட்டு - (பக்கம் 13)



## எலுமிச்சை

Botanical Name : Citrus Medica

Family : Rutaceae

### வேறுபெயர்கள்:

“ஏற்கும் சதா பலம்சம் பீரமெலு மிச்சைக்கே  
தாக்குபித்த சக்தியுடன் தாகம்போம் நோக்கில்  
கபவாத உற்பனத்தை காட்டியே நிற்கும்  
அபவாதம் என்றே அறி”.

பெயர் : சதாபலம், சம்பீரம்.

அகத்தியர் வைத்திய சிந்தாமணி வெண்பா 4000.

பாகம் - 2, பக்கம் - 294.

“செம்பினதோர் தேசினீர் கூதழச்சார மென்றும்  
சிறுகிளியின் பழச்சாறு வென்றும் பேரு  
நெப்பின தோர்நிம்பவளச் சாரென்றும் பேரு  
னோவாளி மாதரசி யென்றும் பேரு  
யுப்பினதோர் உபனோரஞ் சகனென்றும் பேரு  
யுடல்பித்த வெலும்பிச் சம்பழத்தின் பேரே.”

### பொருள்:

கூதழச்சாரம்

சிறுகிளியின் பழச்சாறு

நிம்பவளச்சாறு

மாதரசி

- பஞ்சகாவிய நிகண்டு ப.எண். 129.

**Vernacular Names:**

|           |   |
|-----------|---|
| English   | - Acid lime, Soul lime.   |
| Gujarathi | - Khata limbu, lebu, limbu, Nimbu   |
| Hindi     | - Lebu, Limbu, Limu, Limun, Nebu, Nibu, Nimbu.  |
| Malayalam | - Dastahaskam, Dantasanam, Dantasatham,<br>Erunichinarakam, Narakam, Serunarakam  |
| Marathi   | - Limbu.  |
| Sanskrit  | - Amalajambir, Amalsara, Oantaghata, Jambra,<br>Jantamari, Limpaka, Nimbuka, Rochana, Shodhana,<br>Ranhibija, Vanhidipya, Vijapura. |
| Tamil     | - Ambu, Amburogini, Arunao, Elumichai, Ligusam,<br>Mrukku.  |
| Telugu    | - Nimma   |

**Varieties and Hybrids:****Varieties**

CV. Diamaste  
Variety Etrog  
Yamenite Citrm  
Motoccah Citrm  
Balady Citm  
Florestine Citrm  
Buddha's Hand

### Important Hybrids:

Citrus × latifolia - Persion Lime

Citrus × Limon - Lemon

### Other Hybrids:

Ponderosa lemon

Bergumot orange

### வகைகள்:

செடி எலுமிச்சை, கொடி எலுமிச்சை

### வளரியல்பு

இஃது இந்தியா முழுமையும் பயிர் செய்யப்படுகிறது. சுமார் 8 முதல் 10 அடி உயரம் வளரும். இலை மேற்புறம் பசுமையுடன் சிறு புள்ளிகளையும், உடைத்தாயிருக்கும். இப்புள்ளிகளில் எண்ணெய் நிறைந்திருக்கிறது. இச்செடி முழுமையும் நீண்டு பசுமையுள்ளதாக முட்கள் நிறைந்திருக்கும். இதன் பழத்தின் தோல் மஞ்சள் நிறமாகவும், எண்ணெய் கலந்த புள்ளிகளை உடையதாகவும், ஒருவித நல்ல மணமுடையதாகவும் இருக்கும். உட்பாகம் சுளைகளாகவும், ரசம் அதிகம் புளிப்புடையதாகவும் இருக்கும். காயாக இருக்கும் போது பச்சை நிறமாக இருக்கும்.

### பயன்படும் உறுப்புகள்:

இலை, காய், பழம், பழரசம், எண்ணெய்.

### காய், பழம்:

|        |   |          |
|--------|---|----------|
| சுவை   | - | புளிப்பு |
| தன்மை  | - | வெப்பம்  |
| பிரிவு | - | கார்ப்பு |

செய்கை - குளிர்ச்சியுண்டாக்கி

**குணம்:**

இது முக்குற்றம், சூலை, வாந்தி, குன்மம், இடுமருந்து, அழல் இவைகளைப் போக்கும்.

“தீதெலு மிச்சங்காய் டேர்முத்தோ டத்தையுமுன்  
வாத கப, சூலையையும் மாகொடிய - சாதியெனுஞ்  
பித்தவெப்பை யுந்தணிக்கும் பேசு.”

**எலுமிச்சை:**

“சதாபலக் கனிகாய சமூலமு குணவே  
நிதானமாய்ப் பயித்திய நிந்தையா யகலுமே”

எலுமிச்சம்பழம், எலுமிச்சைவேர், இலை இவைகளை கொள்ளின் தீக்குற்றத்தால் உண்டான நோய்களும், வெறிநோயும் போம்.

**பழம்:**

“தாகம் குருகநோய் தாழாச் சிலிபதநோய்  
வேகங்கொள் உன்மாதம் வீறுபித்தம் - மாகண்ணோய்  
கண்ணோய் வாந்தியும்பொங் கட்டுவா தித்தொழிலில்  
மன்னெலுமிச் சங்கனியை வாழ்த்து.”

இது மயக்கம், வாந்தி, வாய்குமட்டல், நீர்வேட்கை, வெறி, கண்ணோய், காதுவலி இவைகளை போக்கும். நகச்சுற்றுக்கும் நன்மை தரும்.

**Chemical Constituents:**

Citric acid, Phosphoric acid, Malic acid, Citrates of potassium, sugar, mucilage, and hesperidin.

**Action:**

Antiseptic, Tonic, Diuretic, Digestive and Stimulant

## **MATERIALS AND METHODS**

**Annabedhi Chenduram** was taken as a drug for treating ‘**Gunmam**’ in this dissertation.

### **Collection of Test drugs:**

Annabedhi was collected from the private raw drug store, Palayamkottai and was identified by the PG Gunapadam staffs.

### **Purification of Annabedhi:**

Annabedhi was purified by soaked in the lime juice for one day and then exposing it to the sunlight to dry.

### **Preparation of Annabedhi Chenduram:**

The above purified Annabedhi was ground with lime juice for 3 hours in day time. This was made into villai and dried in day light. Then it was subjected to Pudam with sufficient varaties. A fine Chenduram was obtained, then this was well ground in a Kalvam and filtered through the cotton cloth and stored.

### **Route of administration:**

Enteral

### **Dose:**

100mg twice a day with honey take after food. The prepared Annabedhi Chenduram used as a anti-ulcer drug was analysed by the following methods.

1. Bio-Chemical analysis
2. Pharmacological analysis
3. Anti-Microbial analysis
4. Heavy metal analysis
5. Toxicity study
6. Clinical Assessment.

## BIO - CHEMICAL ANALYSIS

### ANNABEDHI CHENDURAM

#### PREPARATION OF THE EXTRACT

100mgs of chenduram is weighed accurately & placed into a clean beaker and added a few drops of concentrated hydrochloric acid and evaporated it well. After evaporation cooled the content and added a few drops of conc. Nitric acid and evaporated it well. After cooling the content add 20ml of distilled water and dissolved it well. Then it is transferred to 100ml volumetric flask and made up to 100ml with distilled water. Mix well filter it. Then it is taken for analysis.

#### Qualitative Analysis:

| S.no | Experiment   | Observation                    | Inference                                  |
|------|--|--------------------------------|--|
| 1.   | <b><u>Test for calcium</u></b><br>2ml of the above prepared extract is taken in a clean test tube. To this add 2 ml of 4% ammonium oxalate solution. | No white precipitate is formed | Absence of calcium                         |
| 2.   | <b><u>Test for sulphate:</u></b><br>2ml of the extract is added to 5% barium chloride solution.  | A white precipitate is formed  | <b>Indicates the presence of sulphate.</b> |
| 3.   | <b><u>Test for chloride</u></b><br>The extract is treated with silver nitrate solution.  | No white precipitate is formed | Absence of Chloride                        |

|     |  |                                     |  |
|-----|--|-------------------------------------|--|
| 4.  | <b><u>Test for carbonate</u></b><br>The substance is treated with concentrated Hcl.  | No brisk effervescence is formed    | Absence of Carbonate                           |
| 5.  | <b><u>Test for zinc</u></b><br>The extract is added with potassium ferro cyanide.  | No white precipitate is formed      | Absence of Zinc                                |
| 6.  | <b><u>Test for iron Ferric</u></b><br>The extract is treated with concentrated glacial acetic acid and potassium ferro cyanide.          | No blue colour is formed            | Absence of Ferric Iron                         |
| 7.  | <b><u>Test of iron :</u></b><br><b><u>Ferrous:</u></b><br>The extract is treated with concentrated Nitric acid and ammonium thio cynate. | Blood red colour is formed          | <b>Indicates the presence of ferrous irons</b> |
| 8.  | <b><u>Test for phosphate</u></b><br>The extract is treated with ammonium molybdate and concentrated nitric acid.                         | No yellow precipitate is formed     | Absence of phosphate                           |
| 9.  | <b><u>Test for albumin</u></b><br>The extract is treated with Esbach's reagent.  | No yellow precipitate is formed     | Absence of albumin                             |
| 10. | <b><u>Test for Tannic acid</u></b><br>The extract is treated with ferric chloride.   | No blue black precipitate is formed | Absence of Tannic acid                         |
| 11. | <b><u>Test for unsaturation</u></b><br><i>Potassium permanganate solution is added to the extract.</i>                                   | <i>It does not get decolourised</i> | Absence of unsaturated compound                |



|     |  |                            |                           |
|-----|--|----------------------------|---------------------------|
| 12. | <b><u>Test for the reducing sugar</u></b><br>5ml of benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and added 8-10 drops of the extract and again boil it for 2 mts. | No colour change occurs    | Absence of Reducing Sugar |
| 13. | <b><u>Test for amino acid:</u></b><br>One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% ninhydrin is sprayed over the same and dried it well.                | No violet colour is formed | Absence of amino acid.    |

### **Inference**

The given sample of **ANNABEDHI CHENDURAM** contains Sulphate and Ferrous iron.

## **PHARMACOLOGICAL ANALYSIS**

### **ANTI ULCER STUDY ON ANNABEDHI CHENDURAM**

#### **Preparation of the test drug:**

200 mg of Annabedhi Chenduram was mixed with 10ml of palm jaggery mixed with hot water and 1 ml was given to each rat. This 1ml contains 20mg of Annabedhi Chenduram.

#### **Aim**

To study the anti-ulcer activity of Annabedhi Chendruam.

#### **Procedure:**

6 albino rats were fasted for about 48 hours. After fasting, the abdomen of the rats were opened under the anesthetic ether and the pylorus of the stomach were ligated. At the time of ligation 2 rats were given 20 mg of test drug in the stomach. 2 rats received 20 mg of Ranitidine as standard drug in the stomach and other 2 rats were given 1 ml of water as control drug in the stomach. The incisions were closed and the rats were allowed to recover. The animals were sacrificed 18 hours of later. After the pyloric ligation, the stomach content of gastric secretion was collected. 1ml of gastric secretion pipetted out and the free HCl and total HCL levels of gastric secretion were analysed by using 0.001 N sodium hydroxide solution using topffers reagent as indicator. The stomach was opened along the greater curvature and was put in

formalin for fixation. After that, the stomach was mounted in moist corkboard. The ulcers were examined and degree of ulceration was noted. The results of the above experiments are shown in.

#### **Anti-ulcer efficacy of Annabedhi Chenduram**

| <b>Group</b>            | <b>Dose/100gm<br/>body<br/>weight</b> | <b>Volume<br/>of gastric<br/>secretion</b> | <b>Free<br/>HCl in<br/>units</b> | <b>Total<br/>HCl in<br/>units</b> | <b>Degree of<br/>ulceration</b> |
|-------------------------|---------------------------------------|--|----------------------------------|-----------------------------------|---------------------------------|
| Control –<br>water      | 1ml                                   | 2.5ml                                      | 100                              | 75                                | 100%                            |
| Standard-<br>Ranitidine | 20mg                                  | 7ml  | 5                                | 15                                | 5%                              |
| Test Drug               | 20mg                                  | 5ml  | 10                               | 22                                | 17.3%                           |

#### **Inference:**

From the above tabulation and the degree of ulceration as shown in the photographs, we came to know that the drug Annabedhi Chenduram protects the gastric mucosa by neutralizing the excessive gastric acids and the test drug has got significant anti ulcer activity.

## **ANTI – MICROBIAL ACTIVITY**

### **BY KIRBY BAUER METHOD**

#### **AIM:**

To determine the Antimicrobial activity of “Annabethi Chendhuram”

#### **COMPONENTS OF MEDIUM:**

|                    |   |             |
|--------------------|---|-------------|
| Beef Extract       | : | 300gms/lit  |
| Agar               | : | 17gms/lit   |
| Starch             | : | 1.5gm/lit   |
| Casein Hydroxylate | : | 17.5gms/lit |
| Distilled Water    | : | 1000ml      |
| PH                 | : | 7.6         |

#### **PROCEDURE:**

The method of antimicrobial activity study is Disc Diffusion Method.

The principle of antibiotic sensitivity test is simple. Antibiotic discs are prepared with known concentration of antibiotic (1gm/10ml of distilled water) are placed on agar plates that has been inoculated with the best organism. The antibiotic diffuses through the agar producing an antibiotic concentration, Gradient effectiveness of susceptibility is

proportional to the diameter of the inhibitory zone around the disc organism which grows upto the edge of the disc are resistant.

The recommended medium in this method is Muller Hinton Agar, its pH should be between 7.2 – 7.4 and should be poured to uniform thickness of 4mm in the Petri Plate (25ml) for certain fastidious micro organism.

### **Methodology:**

Muller Hinton Agar plates are prepared and pseudomonas, vibrio cholerae, E.coli, Bacillus, Klebsiella, Micrococcus, Streptococcus is inoculated separately.

- ❖ The prepared discs of Annabethi Chendhram are placed over the incubated plate using sterile forceps and incubated for 24 hours at 37celcius.

The plates after 24 hours incubation are observed for the zone of inhabitation.

### **RESULT:**

The diameter of zone of inhibition of Annabethi Chendhram for Staphylococcus aureus is 12 mm.

**RESULT TABLE**

| <b>S. No.</b> | <b>Test Drug</b>        | <b>Organisms (Culture)</b> | <b>Susceptibility</b> | <b>Zone Size<br/>(mm)</b> |
|---------------|-------------------------|----------------------------|-----------------------|---------------------------|
| 1.            | Annabethi<br>Chendhuram | Escherichia Coli           | Resistant             |                           |
| 2.            |                         | Klebsiella                 | Resistant             |                           |
| 3.            |                         | Proteus                    | Resistant             |                           |
| 4.            |                         | Staphylococcus aureus      | Sensitive             | 12mm                      |
| 5.            |                         | Streptococcus pneumoniae   | Resistant             |                           |
| 6             |                         | Pseudomonas aeruginosa     | Resistant             |                           |
| 7.            |                         | Candida albicans           | Resistant             |                           |

# METHODOLOGY FOR ANALYSIS OF METALS BY ATOMIC ABSORPTION SPECTROMETER

## Principle

Atomic absorption is the process that occurs when a ground state atom absorbs energy in the form of light of a specific wavelength and is elevated to an excited state. The amount of light energy absorbed at this wavelength will increase as the number of atoms of the selected element in the light path increase. The relationship between the amount of light absorbed and the concentration of analyses present in known standards can be used to determine unknown sample concentration by measuring the amount of light they absorb.

The absorption of light is proportional to the concentration of free atoms in the flame is given by Lambert-beer law.

$$\text{Absorbance} = \log_{10} I_0/I_t = k.c.l$$

Where,  $I_0$  = intensity of incident radiation emitted by the light source.  $I_t$  = Intensity of transmitted radiation.  $C$  = Concentration of sample (free atoms).  $k$  = Constant  $l$  = Path Length

## Methodology for Metal Analysis

### a) Sample collection

The samples will be cleaned and dried under shade. The dried samples will be then grinded and powdered in an agate pestle and mortar. Samples will be labeled and stored in pre-cleaned polyethylene bottles for further analysis.

**b) Reagents and apparatus**

All the reagents such as  $\text{HNO}_3$ , and  $\text{H}_2\text{O}_2$  purchased from MERCK (Analytical Grade). De-ionized water will be used for all analytical work and all the glassware's, polyethylene bottles, pipette tips and others will be washed with 1% HCL, rinsed with de-ionized water before preparing standards, reagents and samples.

**c) Digestion of samples ( Sample preparation)**

A multwave 3000 micro oven system (from Anton paar, USA) with 16 position Teflon vessels with capping is being used here. The digestion vessels are provided with a controlled pressure, temperature and release valve. Before use, all Teflon vessels are soaked with 10%  $\text{HNO}_3$ . The system is initially programmed by giving gradual rise of 20%, 40%, and 50% power for 5, 15 and 20 minutes respectively for the due warming up. The powder samples are being used without any further treatment for sample preparation. 0.2 g of sample is weighed into the Teflon vessels followed by digestion mixture of  $\text{HNO}_3$ , and  $\text{H}_2\text{O}_2$  in the ratio of 3:1, according to the nature of samples are being applied.

The resulting solution after microwave digestion is filtered through whatman # 40 filter paper (if necessary) and diluted to 5 ml with de-ionized water. A sample blank containing only acid mixture is prepared at the same time. The method of standard addition is generally adapted to calibrate the instrument before going for the observation of the samples.



## **Determination of metals**

All the atomic measurements are carried out with Perkin Elmer model 400/HGA900/AS800 coupled with mercury hydride system – 15 (MHS-15) and Flame Photometer. The lamps of Hollow cathode lamp (HCL) for Fe, Cu, Mn, Zn, Ni,Co and Electrodeless Discharge Lamp(EDL) for Cd, Pb, Hg and As, analysis are used as a light source to provide specific wavelength of the elements to be determined and high purity (99.999%) Acetylene, Nitrous oxide are used to provide constant thermal energy for atomization process and Argon gas used for carrier gas purging purposes for Graphite furnace.

## **Calibration of instruments**

More than three working standard solution of elements to be determined are prepared, covering the concentration range as recommended by the manufacturer of the instrument for the elements to be determined. Before the analysis of samples, the instruments will be calibrated with prepared working standard solution. The calibration curves will be obtained for concentration vs. absorbance data statically analyzed. Calibration of the instrument will be repeated periodically during operations and blanks will be carried with each set of 10 samples or aspirate any one of the prepared working standard for every 10 samples to check the instrument drift and to validate analytical procedures and performance. Regent blank reading will be taken and

necessary correction will be made during the calculation of concentration of various elements.

Standard Certified Reference SASTRA UNIVERSITY will be used for day-to-day evaluation of methods of analysis or test and for long-term quality assurance of measurements. A reagent blank reading will be taken and necessary corrections will be made during the calculation of concentration of various elements.

**Fe, Cu, Mn, Zn, Mg, Mo etc., metals analysis (Flame AAS/Graphite furnace)**

After calibrating the instrument with prepared working standard, the digests liquid sample's solution is subjected to analysis of Fe, Cu, Mn, Zn, Ni, Co by AAS flame and As by furnace with specific instrumental conditions as given by instruments manufacturer. Introduce the solution into flame, record the reading, using the mean of the three reading and quantified the concentration of the metals in the given samples against the standard calibration curve obtained from concentration vs. Absorbance of the prepared known concentration on the day of the analysis.

**Hg analysis by cold vapour method**

After calibrating the instrument with prepared working standard, the 10 ml of digests liquid sample's pipette out to a specific container of mercury Hydride system analyzer followed by adding 1.5% of Hcl of 10

ml as diluent for each flask and blank, 3% of NaBH<sub>4</sub> solution in 1% of NaOH is run through the reaction flask to quartz cell without heating against the calibration curve obtained from concentration vs absorbance of the prepared known concentration on the day of the analysis.

### Reference

1. Analysis, 2000, 28, 850-854. © EDP Sciences, Wiley – VCH 2000
2. Analytical Sciences April 2000 Vol.16, © The Japan Society for Analytical Chemistry.
3. The Sciences, (2); 74-77 March-April 2001.

Heavy Metal Analysis of the Annabedhi Chenduram was done in the Bio –Technology Department of Sastra University using AAS (Atomic Absorption Spectrometer) and the results are given below.

### Inference:

From the above Heavy Metal Analysis it is concluded that Annabedhi Chenduram contains

|                 |                 |
|-----------------|-----------------|
| Fe – 49.36 PPM  | Cu – 2.9068 PPM |
| Mn – 2.5672 PPM | Zn – 9.0720 PPM |
| Ni – 0.2972 PPM | Co – 0.3296 PPM |
| Cd – 0.1328 PPM | Pb – 2.9688 PPM |
| Hg – 0.2290 PPM | As – 0.1957 PPM |

## **GEO CHEMICAL ANALYSIS**

**Instrument used:** Atomic Absorption Spectrometer – Model A Analyst400/HGA900/AS/800- Perkin Elmer

**Name of the trial drug: Annabedhi Chenduram**

**Units in ppm**

| <b>Sample. Name</b>    | <b>Fe</b> | <b>Cu</b> | <b>Mn</b> | <b>Zn</b> | <b>Ni</b> | <b>Co</b> | <b>Cd</b> | <b>Pb</b> | <b>Hg</b> | <b>As</b> |
|------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Annabedhi<br>Chenduram | 49.36     | 2.9068    | 2.5672    | 9.0720    | 0.2972    | 0.3296    | 0.1328    | 2.9688    | 0.2290    | 0.1957    |
| WHO Limit              | 25        | 15        | 5         | 15        | 10        | 1         | 0.3       | 10        | 1         | 10        |

## **ACUTE TOXICITY STUDY**

### **Animals Used For the Study**

Wister albino rats bred in the animal house attached to the post Graduate Pharmacology Department, Government Siddha Medical College, Palayamkottai were used.

### **Sex**

Animals of both sex were used.

### **Weight**

Animals weighing 100-120gms were selected.

### **Food and Water**

The animals were maintained with standard laboratory pellet feed and water ad-libitum.

### **Preparation of Animals**

The animals were randomly selected and were marked with picric acid on fur and kept in their cages for five days prior to dosing, to allow acclimatization to the laboratory conditions.

### **Separation of Animals in Groups**

10 rats were divided into 5 groups each consisting of 2 rats. 1st group is kept as control group by giving water alone.

## **Dose Levels**

The following dose levels were arbitrarily fixed by presuming range of least toxic to high toxic doses.

1. Group - 40mg/kg Body weight of animal
2. Group - 80mg/kg Body weight of animal
3. Group - 160mg/kg Body weight of animal
4. Group - 320mg/kg Body weight of animal
5. Group - 640mg/kg Body weight of animal

## **Route of administration**

The drug was administered orally.

## **Test Dose Preparation**

The preparation was done in such a way as 1ml of the suspension contained 40mg of test drug and administered as given above in each group. The drug was administered once on the day of the experiment and after 24 hour parameters were used.

## **Experimental Set up**

All the five groups were fasted for over night prior to dosing. Following the period of fasting the animals were weighted and the test substance was administered through "Rat oral intubation tube"

After the administration of the test drug, food was withheld for 1-2hrs.

## **Observation**

The following parameters were noted.

### **Central effects**

#### **1. Stimulation**

- Hyper activity
- Piloerection
- Twitching
- Rigidity
- Irritability
- Jumping
- Clonic Convulsion
- Tonic convulsion

#### **II. Depression**

- Ptosis
- Sedation
- Sleep
- Loss of traction
- Loss of Pinna reflex
- Ataxia
- Catatonia
- Loss of muscle tone
- Analgesia

### **III. Autonomic effect:**

- Straub's tail flicking
- Laboured respiration
- Cyanosis
- Blanching
- Reddening
- Abnormal secretions

At the end of 24hrs, the number of animals dead in each group was noted and the approximate LD<sub>50</sub> was determined. The animal were morphologically examined for any toxic symptoms.

### **Result:**

The drug **Annabedhi Chenduram** did not produce any mortality upto 640 mg / animal. So, it was inferred that the drug is safe upto 640 mg / animal.



## CLINICAL ASSESSMENT

The drug **Annabethi Chenduram** is therapeutic agent specifically indicated for **Gunmam** in Siddha literatures.

A clinical trial of anti-ulcer activity of this drug on Gunmam was carried out in Govt. Siddha Medical College Hospital, Palayamkottai.

Patients of different age groups from both sexes were selected in Out Patient and In Patient ward of Govt. Siddha Medical College Hospital.

The patients were diagnosed as Gunman according to the criteria derived by ancient siddhars. Now a days the patients are examined meticulously by modern investigation such as lab investigation and endoscopy for upper gastro intestinal tract.

The patient were selected as **Gunmam** in accordance with the following including and excluding criteria.

### **Including Criteria:**

- Epigastric Pain
- Nausea and Vomiting
- Upper abdominal discomfort
- Water brash
- Heart burn and
- Other relevant clinical features

**Excluding Criteria:**

- Radiating abdominal pain as in pancreatitis, appendicitis.
- Acute abdomen
- Carcinoma of stomach
- Cirrhosis of liver
- Jaundice
- Complication of peptic ulcer like
  1. Bleeding
  2. Perforation
  3. Pyloric Stenosis
- Intestinal obstruction
- From associated diseases like gall stone, hernia.

In this clinical study, 35 cases were selected from either sex. Out of these 30 were out patients and 5 cases were inpatients.

**Line of Treatment:**

The patients were orally administered Annabedhi Chandruam in a dose of 100mg twice a day with honey.

**Diet and Advice:**

- Easily digestible foods such as rice congee, tender vegetables.
- Avoid foods which are hard to digest such as coconut, grams, mutton, fishes and spicy.
- Avoid smoking and alcohol.
- Avoid stress

## **OBSERVATION**

The anti – ulcer action of Annabedhi chenduram was observed on the basis of the relief of symptoms and this was ruled out by routine lab investigations.

Among the complaints of Gunmam, nausea and vomiting reduced significantly within 15 days. Other symptoms were gradually subsided during the remaining course of the treatment.

The clinical improvement were recorded for every 7 days in Out patients and daily in Inpatients. The laboratory investigations were done for the patients before and after treatment. At last the prognosis was noted.

### **Results:**

Among 35 patients 26 cases showed good response, 7 cases showed fair response and 2 cases showed poor response.

**Table Illustrating the prognosis:**

| <b>S. No.</b> | <b>Prognosis</b> | <b>No. of patients</b> | <b>Percentage (%)</b> |
|---------------|------------------|------------------------|-----------------------|
| 1             | Good             | 26                     | 74.29%                |
| 2             | Fair             | 7                      | 20.00%                |
| 3             | Poor             | 2                      | 5.71 %                |

## BIO- STATISTICAL ANALYSIS

**Drug: ANNABEDHI CHENDURAM**

**Diagnosis: GUNMAM**

**Description of the study subjects:**

The clients of Gunmam were analysed described based on their age and sex. The results are tabulated as follows.

**Table-4 Age and sex wise classification of respondents.**

| S. No. | Age group    | Male   |       | Female |       | Total |       |
|--------|--------------|--------|-------|--------|-------|-------|-------|
|        |              | No     | %     | No     | %     | No    | %     |
| 1.     | 10-19        | 1      | 4.8   | -      | -     | 1     | 2.9   |
| 2.     | 20-29        | 1      | 4.8   | 2      | 14.3  | 3     | 8.6   |
| 3.     | 30-39        | 1      | 4.8   | 5      | 35.7  | 6     | 17.1  |
| 4.     | 40-49        | 13     | 61.8  | 4      | 28.6  | 17    | 48.6  |
| 5.     | 50-59        | 1      | 4.8   | 1      | 7.1   | 2     | 5.7   |
| 6.     | 60-69        | 4      | 19.0  | 2      | 14.3  | 6     | 17.1  |
|        | Total        | 21     | 100.0 | 14     | 100.0 | 35    | 100.0 |
|        | Mean         | 44.5   |       | 42.4   |       | 43.7  |       |
|        | S.D          | 11.4   |       | 12.0   |       | 11.6  |       |
|        | ‘t’          | 0.5246 |       |        |       |       |       |
|        | Significance | p>0.05 |       |        |       |       |       |

The age and sex wise classifications were shown in table-4. The mean age of male patients was  $44.5 \pm 11.4$  and the same of females was  $42.4 \pm 12.0$ . The observed difference between the mean ages of male and female was not statistically significant [ $t = 0.5246$ , d.f = 33 and  $p > 0.05$ ].

The means both sexes are equal respect of their age. The participant was 60 % and the female was 40%.

### **Response the drug;**

The response of the drug was analysed in terms of their sex. The results were posted in the below table.

**Table-5 Sex wise percentage distribution of the response.**

| S. No. | Prognosis | Male |       | Female |       | Total |       |
|--------|-----------|------|-------|--------|-------|-------|-------|
|        |           | No   | %     | No     | %     | No    | %     |
| 1.     | Good      | 15   | 71.4  | 11     | 78.6  | 26    | 74.3  |
| 2.     | Fair      | 5    | 23.8  | 2      | 14.3  | 7     | 20.0  |
| 3.     | Poor      | 1    | 4.8   | 1      | 7.1   | 2     | 5.7   |
|        | Total     | 21   | 100.0 | 14     | 100.0 | 35    | 100.0 |

The sex wise analysis of the drug shown in the table-5 was the response of the drug. The drug had equal response in both sexes, since difference between the response of the drug of male [71.4%] and female [78.6%] was not statistically significant [ $P > 0.05$ ]. The drug was effective in curing Gunmam since the drug showed good response as 75%.

The response of the drug was classified according to the age of the respondents by creating two categories of the age such as less than 40 years and 40 and above years. The results were posted in the table.

**Table-6 Age wise response of the drug.**

| S. No. | Peognosis | <40 years |        | 40 + above years |       | Significance |
|--------|-----------|-----------|--------|------------------|-------|--------------|
|        |           | No        | %      | No               | %     |              |
| 1.     | Good      | 9         | 90.0   | 17               | 68.0  | P<0.1        |
| 2.     | Fair      | 0         | 0.0    | 7                | 28.0  | -            |
| 3.     | Poor      | 1         | 10.0   | 1                | 4.0   | -            |
|        | Total     | 10        | 100.00 | 25               | 100.0 |              |

The above the table -6 shows the response of the below 40 years and 40+years study subjects. Genarally the below 40 years of the patients showed better response than the above 40 years patients. The above concept was proved in the above analysis and interpretations. The below 40 years had showed 90% good response and the 40 and above years had showed only 68% of good response. [t = 1.645, d.f = 33 and P<0.10 = one tail]. From the above discussions, the drug was curing the disease effectively and if the drug was administered to the young people it was effective than the old [above 40 years] people.

Analysis and interpretations was done by Prof. **P.Arumugam B.Sc, M.A, M.P.S.P.G.D.C.A**, part time professor of Bio-statistics, sGovt.Siddha Medical College, Palayamkottai.

## DISCUSSION

The drug **ANNABEDHI CHENDURAM** was selected in this dissertation to study its therapeutic efficacy in the management of “Gunmam”

According to siddha literatures the basic abnormality in Gunman is the derangement of Pitha humour.

“சிறப்பான பித்தத்தில் வாதநாடி

.....

உறைப்பாகச் செரியாமை குன்மஞ் சூலை”

Thus the affected Pitha humour manifests as clinical symptoms like epigastric pain, nausea, vomiting, indigestion and anorexia etc.

From the review of literatures it is inferred that the drug Annabedhi Chendhuram selected for this study possesses the taste Astringent (துவர்ப்பு)

The action of this taste is stated as follows,

“குருதி சுத்தியாக்கும்

கொடிய பித்தம் போக்கும்

பொருதுப் புண்ணை யாற்றும்.

.....”

- மருத்துவ தனிப்பாடல்

- சித்த மருத்துவாங்கச் சுருக்கம் பக்கம் 40.

The above stanza says that the taste astringent has the tendency to remove the harmful effects of the vitiated pitha humours.

All the patients were given Annabedhi Chendhuras with honey as vehicle (Anupanam) for the drug. This honey acts on the Pitha humour, there by reducing the increased dosha and improving the efficacy of the drug. This has been stated in our literature as,

“.....

“யரசன் முதல்வேளரை யுமாட்டு வித்தாலே

பிரசத் தினாற்போம் பணி”

- குணபாடம் தாது சீவ வகுப்பு பக்கம் 665.

All these factors seems to neutralize the vitiated pitha humour.

This explanation is arrived on the basis of the analysis of the Gunapadam aspect of the drug which correlates with that of the pharmacological analysis and the clinical assessment.

Bio Chemical analysis shows the presence of sulphate and ferrous iron.

This presence augments the therapeutic value of this drug by providing indispensable nutrition.

Pharmacological analysis shows that the drug has got significant Anti – ulcer activity.

Microbiological analysis shows that the drug has got sensitivity to staphylococcus aureus.

In the clinical assessment of the 35 cases 74.29% showed good response 20% showed fair response and 5.71% showed poor response.



Bio statistical analysis shows that the drug is effective in controlling Gunman.

Acute toxicological study reveals that the drug has no adverse and toxic effects upto the concentration of 1.6 gm 1kg in albino rats.

The improvement was proved by the alleviation of sings and sympotoms present before the treatment.

During the clinical trail the patients showed no adverse reactions.

## SUMMARY

The drug ANNABEDHI CHENDHURAM has been taken to establish its efficacy in treating Gunman. The dose of Annabedhi Chendhuras is 100 mg twice daily with honey after food.

A brief description pertaining to chemical constituents and Gunapadam aspects has been done.

A review of literatures about the drug and its significance in medicine since ancient period has been done.

Collected information from various literatures and website has been referred.

Bio chemical analysis shows the presence of sulphate and ferrous iron.

Pharmacological analysis shows that the drug has got significant Anti – ulcer activity.

Microbiological analysis shows that the drug has got sensitivity to staphylococcus aureus activity.

Toxicological analysis shows that the drug has no adverse and toxic effects.

Bio statistical analysis shows that the drug is effective in controlling Gunman.

From the clinical assessment it is inferred that ANNABEDHI CHENDHURAM possesses remarkable efficacy in treating “GUNMAM” and the drug has got no adverse reactions.

## **CONCLUSION**

It is concluded that the drug **ANNABEDHI CHENDHURAM** is an effective drug in treating **GUNMAM** and it has no adverse reactions.

## INTRODUCTION

The Siddha system is a treasure-house of secret science, embodying the results of the order pursuit there of by the ancient Siddhars.

Siddha System of Medicine is as old as mankind and dominated the civilisation of the southern peninsula of India. This civilisation dates back to 12,000 years Before Christ. The findings of historians and the Tamil literary works such as "Tholkapiam," "Thiruvagasam" etc., reveal that there were three Tamil Academies for the growth of 64 of such arts of Tamilians.

They practiced the eight kinds of yogas and wrought great miracles, imbued with divine power and ultimately attained the stage of perpetual consciousness or Samathi and enjoyed eternal bliss.

The contribution of Siddhars, to Siddha literature with its boundless therapeutics and wonderful pharmaceutical preparation of medicine is acclaimed par excellence (pre-eminent) even in this 20th century and worthy of its remarkable results. The Siddha treatment deals not only as a curative but also as a preservative, taking care of the external body with its internal being - soul.

The universe consists of two essential entities, matter and energy, which the Siddhars call Siva and Sakthi. Matter cannot exist without

energy inherent in it and energy cannot exist without matter. They two co-exist and are inseparable. Moreover, the universe consists of five elements. They are primordial elements - Bhutas. Their names are Mann (solid), Neer(fluid), Thee(heat), Vayu(gas) and Aakayam(ether). All created or evolved matter in the world, be it animal, vegetable or mineral, falls under these categories. The human anatomy and physiology, the causative factor of disease, the materials for the treatment and cure of diseases, the food for the sustenance of the body, all fall within the five elemental categories.

The Siddha medicines are comprehensive in as much as they are of different grades, shades, types and kinds.

In Siddha medicine, the use of metals and minerals are more predominant in comparison to other Indian traditional medicine systems.

The drugs used by the Siddhars could be classified into three groups: Thavaram (herbal product), Thathu (inorganic substances) and Jeevam (animal products). The thathu drugs are further classified as uloham-11 (not dissolved in water but melt when fired), Karasaram-25 (water soluble inorganic substances or drugs that give out vapour when put into fire), padanam-64 (drugs not dissolved in water but emit vapour when fired), uparasam -120(similar to padanam but differ in action).

In herbal drugs, the Siddhars not only used herbs, which grow in the surrounding areas, but also herbs that grow in high altitudes of

Himalayas. It is noteworthy that Siddhar Korakkar was the first to introduce Cannabis as a medicine; he used it as a powerful painkiller. They also used animal products as medicine, for example in mental diseases; Peranda Parpam is used, which is made-up of human skull bones and the skulls of dogs.

The drugs used in Siddha medicine were classified on the basis of five properties: *suva* (taste), *gunam* (character), *veeriyam* (potency), *pirivu* (class) and *mahimai* (action).

According to their mode of application the Siddha medicine could be categorized into two classes: (1) Internal medicine and (2) External medicine.

Internal medicine was used through the oral route and further classified into 32 categories based on their form, methods of preparation, shelf life, etc.

External medicine includes certain forms of drugs and also certain applications like *nasaiyam*, *kalikam* and also certain procedures like *attavidal* (leech application) etc.

The treatment in Siddha medicine is aimed at keeping the three humors in equilibrium and maintenance of seven elements. So proper diet, medicine and a disciplined regimen of life are advised for a healthy living and to restore equilibrium of humors in diseased condition. Treatment is classified into three categories: *Devamaruthuvum*

(Divine method); Manida maruthuvum (rational method); and Asura maruthuvum (surgical method). In Divine method, medicines like parpam, chendooram, guru, kuligai made of rasam, gandagam and padanams are used. In surgical method, aruvai, karam, suduthal are used. In the rational method, medicines made of herbs like chooranam, kudineer, vadagam are used.

In that – way the author has taken **Chukku Choornam** for the treatment of ‘**Azhal Keel Vayu**’.

## AIM AND OBJECTIVE

The prime aim of this dissertation study is to find out an effective drug for “Azhal Keel Vayu”.

Siddha system of medicine is based on “**Food as Medicine, Medicine as Food**”. (உணவே மருந்து மருந்தே உணவு). Chukku which has medicinal value is used in our day to day food preparations.

“வாதப் பிணிவயி றுதற் செவிவாய்  
வலிதலை வலிகுலை வலியிரு விழிநீர்  
.....”.

- குணபாடம் - மூலிகை பக்கம் 470.

“சக்குக்கு மிஞ்சிய மருந்துமில்லை  
சப்பிரமணியனுக்கு மிஞ்சிய சாமியுமில்லை”  
“சக்கு வசிக்காத வீடும், வளர்க்காத குழந்தையும் இல்லை”  
“சக்கைக்கு சக்கு”

These are proverbs. The author selected the drug **Chukku Choornam** (Gunapadam – Mooligai Vaguppu – First part, Page no. 470) to study the Anti-inflammatory and Analgesic action for Azhal Keel Vayu.

Further the drug is easily available and easy to use. So, this study was done with the view to answer the following objectives.

1. Description of chukku in various siddha literatures.
2. Botanical aspects.
3. Biochemical studies
4. Pharmacological analysis.
5. Microbiological analysis
6. Clinical study of the efficacy of the drug in ‘Azhal Keel Vayu’ patients.



# REVIEW OF LITERATURE

## BOTANICAL ASPECT

### *Zingiber officinale*.Linn

#### CLASSIFICATION:

According to Bentham and Hooker's classification (1862-83)

*Zingiber officinale* Rosc.inTrans.Linn.Soc is classified as follows

|              |   |                   |
|--------------|---|-------------------|
| Kingdom      | : | Vegetable Kingdom |
| Division     | : | Spermatophyta     |
| Sub-division | : | Angiospermae      |
| Class        | : | Monocotyledonae   |
| Series       | : | Epigynae          |
| Family       | : | Scitaminae        |
| Sub family   | : | Zingiberaceae     |
| Genus        | : | <i>Zingiber</i>   |
| Species      | : | <i>Officinale</i> |

**DISTRIBUTION:** Widely cultivated in tropical Asia. Ginger is cultivated in many parts of India; and on large scale in the warm, moist regions, chiefly in Madras, Cochin and Travancore, and to a some what less extent in Bengal and the Punjab.

**Botanical description** : It is an underground rhizome

**Habit:** A herbaceous, rhizomatous perennial, reaching up to 90cm in height under cultivation

**Root:** Adventitious

**Leaves :** Narrow, distichous, sub-sessile, linear-lanceolate, 17.0 cm x 1.8cm., dark green, evenly narrowed to form a slender tip with stem - clasping sheaths.

**Inflorescence :** Spikes terminating. Elongate peduncles sheathed by scarious bracts. Spikes oblong – cylindric, 1.5 – 3 inch long 4-1 inch wide, glabrous. Peduncle slender; sheathing scales glabrous, about 1 inch – long; lip 3 – lobed, mid lobe oblong – ovate, lateral short, ovate, obtuse.....4.

**Floral characters:**

**Flowers :** Zygomorphic, asymmetrical, bisexual, epigynous. Flowers in spikes; scape radical or terminating the leafy stem; bracts persistent, usually 1 – flowered. Greenish with a small dark purple or purplish black tip, in radical spikes 3.8-7.5cm long and 2.5cm diameter. On peduncles 15-30cm. long. Stamen dark puple, as long as the lip, rather shorter than the corolla.

**Perianth :** 6, in two whorls (3 +3), distinguishable into calyx and corolla.

**Calyx :** Cylindric, shortly 3-lobes

**Corolla :** Tubular, unequally three lobed. Lobes lanceolate, the upper concave.

**Androecium** : Stamens 6, in two whorls, only median posterior stamen of the inner whorl is functional and epipetalous, the other two stamens of the inner whole are united to form a 2-lipped staminodium or labellum; the anterior stamen of the outer whorl is absent and the remaining two modified into petaloid staminodes or absent.

**Gynoecium** : Carpels 3, syncarpous, ovary inferior. Axile placentae, ovules many; style and stigma 1, the slender style held in a groove in the fertile stamen.

**Fruit**: an oblong, tardily dehiscent capsule.

**Seeds**: large, globose, arillate.

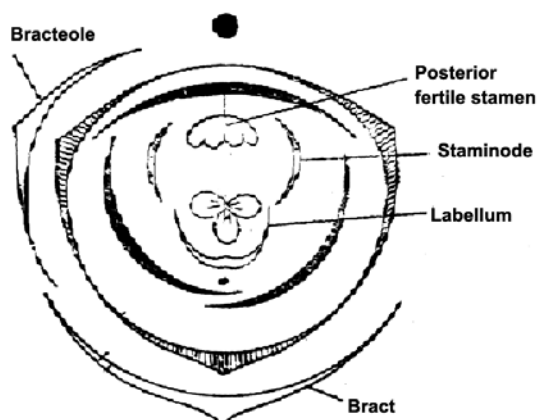
**Floral Formula**:  $+ \overset{\nearrow}{\underset{\searrow}{\square}}, \overline{K}_{(3)}, \overline{C}_{(3)}, A_1, \overline{G}_{(3)}$

**Part used**: Rhizome

**Rhizome** : Thick and fleshy

**Propagation** : by rhizomes.

**Floral diagram**



- Indian Medicinal plants, page- 2435 by K.R.Kirthikar and B.D Basu.
- Angiosperms, page -522 by G.L Chopra.
- The wealth of India Vol –XI page- 89.
- Flora of coorg by K.R. Keshava Murthy & S.N.Yoganarasimhan.
- Flora of the presidency of madras volume III, page1488 by J.SGamble.

## PHARMACOGNOSTICAL ASPECT

### Macroscopic Characters of the Rhizome :

|                           |   |  |
|---------------------------|---|--|
| <b>General Appearance</b> | : | Sympodial branching, horizontal rhizome  |
| <b>Size</b>               | : | Length 5 to 15cm; width (height) 3 to 6cm; thickness 0.5 to 1.5cm  |
| <b>Shape</b>              | : | Laterally flattened on the upper side with short flattened oblique, obovate branches or fingers. Each branch is 1 to 3cm long and at its apex shows a depressed scar of the stem.  |
| <b>Surface</b>            | : | Longitudinally striated with occasional projecting fibres  |
| <b>Fracture</b>           | : | Short, starchy, fibrous  |
| <b>Fractured surface</b>  | : | Shows a narrow bark, a well marked endodermis and a wide stele, showing numerous scattered greyish points (fibro vascular bundles) and smaller yellowish points (secretion cells). |
| <b>Colour</b>             | : | Buff   |
| <b>Odour</b>              | : | Agreeable and aromatic   |
| <b>Taste</b>              | : | Agreeable and pungent  |

**Microscopic characters of the Rhizome :**

**Cork** : Outer zone consists of irregularly arranged cells and inner zone consists of cells arranged in radial rows. Cork is absent in Jamaica ginger

**Phellogen** : Indistinct

Cortex consists of thin-walled, cellulosic rounded parenchyma with intercellular spaces. These cells contain simple ovate or sac-shaped starch grains with hilum at the pointed end. Cortex contains closed collateral fibrovascular bundles. Some cells contain yellow brown oleo-resin.

**Endodermis** : It is distinct and consists of tangentially elongated cells containing suberin in radial walls. Starch is absent.

**Stele** : Below the endodermis is a ring of vascular bundles without fibres. The remaining tissue contains fibro vascular bundles, starch and oleo-resin cells similar to cortex.

**Pharmacopoeial standards :**

|  |  |
|--|--|
| 90% alcohol-soluble extractive is not less than 4.5% | Ginger exhausted with alcohol has 1.5% extractive. Water exhausted ginger cannot be evaluated in this way. |
| Water-soluble extractive is not less than 10%        | Water exhausted, ginger has 6% extractive. Alcohol-exhausted ginger possesses this standard                |
| Total ash is not more than 6%                        | In ginger, not well-washed on lime, total ash is more  |
| Water-soluble ash is not less than 1.7%              | In water-extracted drug this ash is 0.5% and water-exhausted drug can be identified by this standard.      |

**Adulteration :**

Adulteration of ginger by exhausted or not well prepared on limed drug can be determined by the above standards.

Sometimes in exhausted ginger, capsicum or paradise grains are added to increase pungency. Paradise grains are the seeds of *afmomum melagueta* (Zingiberaceae). Pungency of capsicum and paradise grains is not destroyed by boiling with alkali while it is destroyed in case of ginger. Adulteration of ginger by capsicum and paradise grains can be determined by this way.

- Pharmacognosy –page 193 , by Shah and Qadrys
- Pharmacopoeial standards of Herbal Plants, Vol – 1 page-347.

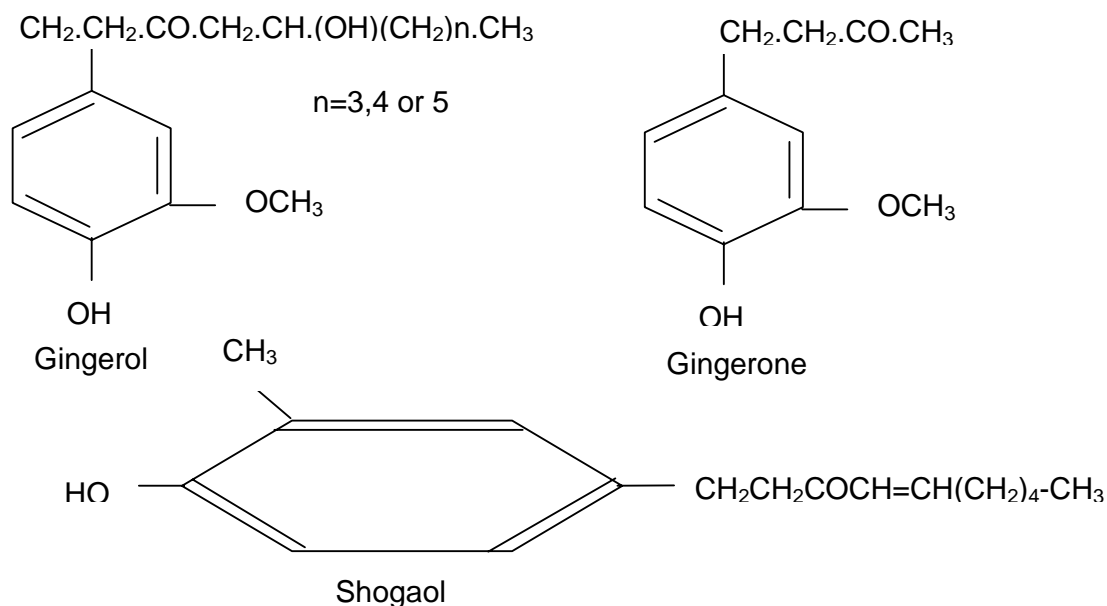
## PHYTOCHEMICAL ASPECTS

### Active Constituents:

Ginger contains 1 to 2% volatile oil, camphene, phellandrene, zingiberene, zingiberol, eucalyptol, citral, bornecol, linalol, methyl heptenone monyl-alcohol, esters of acetic, caprylic acid, yellow oil gingerol, phenols, resin, shogaol.

5 to 8% pungent principle, resinous mass and starch. Volatile oil is responsible for the aromatic smell and consists of zingiberene 6 % sesquiterpene hydrocarbon zingiberol a sesquiterpene alcohol and bisabolene. Gingerol is a yellow pungent oily liquid and yields gingerone a ketone and aliphatic aldehydes shogaol is formed by loss of water from gingerol. Shogaol and gingerone are less pungent. The pungency of gingerol and ginger is destroyed when boiled with 5 % potassium hydroxide or other alkalies.

### Chemical Structure





## **Gingerols**

It has antiulcer, antifungal, antiviral insecticidal and anti oxidant activities.

-Medicinal plants in India Volume II, by T.Pullaiah,

Page-546.

## **Chemical Compositions:**

The composition of ginger varies according to the type and the agro-climatic conditions under it is grown.

### **Dry ginger:**

Values expressed as % dry wt, av.values given in brackets

Moisture , 8.5 – 16.5 (10.9)

Crude protein, 10.3 – 15.0 (12.4)

Crude fibre , 4.8 - 9.8 (7.2)

Starch, 40.4 – 59.0 (53.0)

Total ash, 5.1 – 9.3 (6.6)

Water – sol.ash, 4.0 – 8.8 (5.5)

Water extr., 14.4 – 25.8 (19.6)

Cold alcohol extr., 3.6 – 9.3 (6.0)

Acetone extr., 3.9 – 9.3 (6.5)

And volatile oil, 1.0 – 2.7 (1.8)

- Natarajan et al., J.Fd Sci. & Technol., 1972,9,120

## **Green Ginger**

Moisture, 80.9

Protein, 20.3

Fat, 0.9

Fibre, 2.4

Carbohydrates, 12.3 and

**Minerals -1.2%;**

Ca – 20

P – 60

Fe – 2.6mg/100g.

Traces of Iodine and fluorine (I,0.82 p.p.m. and F<sub>1</sub> 2.0p.p.m. in one sample)

- Nutritive value of Indian foods, 85; SenGupta  
& Pai, Indian J.Nutr. and Dietet., 1971,8,66.

## **Vitamins :**

Thiamine - 0.06 mg/100gm

Riboflavin - 0.03 mg/100gm

Niacin - 0.60 mg/100gm

Vit C - 6.0 mg/100gm

Carotene - 40  $\mu$  g/100gm

(Nutritive value of Indian foods, 85)

Ginger contains small quantities of glucose, fructose and sucrose, raffinose is probably present in traces.

The principal carbohydrate of the rhizome is starch. Besides starch the rhizomes are reported to contain pentosans. (7.6% on dry basis in one sample )

- Connell & Mclachlan, J.chromat., 1972,67,29; Rao et al.,  
Ginger contains 1.60 – 2.44% Nitrogen on dry basis.

Extraction of the freeze-dried and powdered rhizome by the conventional protein – solvents showed that albumin, globulin, prolamine and glutelin formed respectively-35.6, 16.9,11.0 and 17.9% of the total proteins; 18.6% of the total proteins remained unextracted.

The free amino acids present in ginger include Glutamic acid, aspartic acid, serine, glycine threonine, alanine, glutamine, arginine,  $\gamma$ -aminobutyric acid, valine, leucines, proline, phenylalanine, asparagine, lysine, cystine, histidine, and pipercolic acid.

- Srivas et al., spices Bull., 1962 – 63, 2 (12), 61; Reo et al., loc. cit;  
Biol.abstr., 1966,47, 64410

### **Essential oil :**

The characteristic pleasant and aromatic odour of ginger is due to an essential oil, which can be separated from the rhizome by steam distillation. The oil is generally obtained from unscraped ginger. The oil containing cells are particularly numerous in the epidermal tissue and scraped ginger is therefore poor in oil content. The essential oil derived from the dried ginger known in trade as oil of ginger.

**Ginger:**

Ginger was known in China as early as 400 B.c. It was also used as a spice by the Greeks and Romans who considered it an Arabian product because it was received from India by the way of the Red Sea. It was introduced into Jamaica and other islands of the West Indies by the Spaniards, and ginger was exported from the West Indies to Spain in considerable quantity even during the year 1547 A.D. (Gathercoal & Wirth, 405).

Ginger has been under cultivation in India from times immemorial; the plant does not occur in a truly wild state, and rarely flowers, though the cultivated plants on the west coast of India are said to bear flowers quite frequently in October.

**Cultivation:**

For cultivation the rhizome is cut into pieces and each pieces containing a bud is planted into trenches in well – drained and loamy soil in March or April. Sandy loam soil rich in humus and warm humid conditions are ideal for its cultivation.

The plant requires about 80 inches rainfall per year and if rainfall is inadequate water may be supplied by irrigation. Collection is done in December or January when the plants wither after flowering period. Rhizomes are carefully dug out, aerial stems, fibrous roots and buds are removed. They are washed to remove mould and clay attached to them.

Rhizome is peeled on flat surface as well as between the fingers and thoroughly washed in running water. Drug is then dried completely by keeping in the sun on mats which are covered over-nights and in rainy and cloudy seasons. If moisture is present, drug may become mouldy. After drying it loses about 70% of its weight. 1500kg rhizomes are required per hectare. Around 12,500 kg of rhizome per hectare is obtained.

- Wealth of India vol-X1. Page- 89

- Handbook of Aromatic Plants, Page-473.

### **Curing of Ginger**

After the flowers have disappeared and the stems have withered, ginger is ripe for collection. The rhizome are dug up and prepared for the market in different ways.

Ginger is marketed both in the peeled and unpeeled condition, the former as scraped ginger and later as unscraped ginger. In scraped ginger, the epidermal layer of the fresh rhizome is scraped off with the help of a sharpened bamboo – splinter and then washed in water and dried in the sun for 7- 10 days. As the essential oil is contained in the epidermal cells, excessive or careless scraping results in the loss of this oil and depreciates the quality of the spice. The quality of dry ginger, cured at Dodahoo, Himachal Pradesh, in the bright sun has been found to be better than that cured in a closed oven with artificial heat. Iron-knives are not used for scraping as they leave stains on the product.

In the Middle-East countries which buy a very large part of the Indian produce, there is a higher demand for white, polished rhizomes free from specks or spots. For this purpose the raw rhizomes are soaked in water for a day and later in thick milk of lime (1kg.slaked lime/12 litres of water). This material is dried in the sun and then rubbed with gunnybag pieces to remove the last remnants of the skin; the treatment imparts a smooth finish to the final product.

In certain localities the lime treated rhizomes are treated further with sulphur dioxide fumes at the rate of 3.2kg sulphur per tonne of rhizomes for 12 hours in specially constructed chambers to bleach the product.

In Jamaica, a small quantity of lime-juice is sometimes added to the water (0.6 litre to 27-32 litre of water) used for washing the peeled rhizomes to produce whiter ginger.

Gradual drying is said to give a better product and so the rhizomes are dried in the sun in the morning and then air-dried in shade during the rest of the day; this is continued for 8-12 days. The dry rhizomes are graded on the basis of colour and size before packing the product for market or shipment (Kannan & Nair,loc.cit; Sundaram, Indian Fmg,N.S., 1959-60,9(4),12; Guenther, Econ.Bot., 1959,13,86).

- The wealth of India vol-XI

**Commercial varieties:**

In trade, ginger is known after the country of shipment. The following types are recognized.

**Jamaican Ginger:**

Jamaican ginger is deprived of its cork and outer cortex (outer coat) and so it is called uncoated ginger. This ginger is not bleached with calcium salts and so it is called unbleached ginger. Thus Jamaica ginger is uncoated and unbleached. Ginger cultivated and collected in January as above is called plantation ginger and is of high quality. Jamaica exports to all parts of world more than 2 million pounds of ginger every year.

**Cochin Ginger:**

The Ginger is only partially peeled and bleached by dipping into milk of lime. Cochin ginger is thus coated and bleached. Pungency of this ginger is the same as that of Jamaican ginger but it is less aromatic.

**African Ginger:**

This is darker and smaller than cochin ginger. It is imperfectly washed and coated. In recent years quality of this ginger has improved. This ginger is more pungent but lacks the aroma of Jamaica ginger.

- Pharmacognosy By Shah and Qadry's

**Chinese Ginger:**

It is white and is free from fibre. It is inferior in aroma to the Jamaican Ginger and consists of rhizomes which are not fully ripe. The absence of fibre in the rhizome makes this type very suitable for pickling.

- The wealth of India vol-XI

**Dried Ginger:**

The dried ginger, as mentioned under curing is available in two forms coated or unscraped and uncoated or scraped. Green ginger is placed in a wire-gauze cage and dipped in a boiling solution of 20,25 or and 50 percent sodium hydroxide for 5,1 or 0.5 minutes respectively. The cage is pulled out of the lye bath and the rhizomes are placed in 4% solution of citric acid for 2 hours washed and dried.

The loss in weight due to lye-peeling is reported to be 12.5 percent.

Mechanical peeling of rhizomes, using the Hobart abrasive peeler. Abrasive peeling for 60 seconds gives a product equal in essential oil content to hand-peeled ginger. However, hand peeling was found to be superior to mechanical peeling in giving a product which was uniform in appearance, size and colour.

Dried ginger is widely used for flavouring foods such as pies, puddings, cookies, pastries and biscuits. It is a constituent of curry-powders, spices of mince meat and fish, and seasoning mixtures. Used in suppressing fishy odours and used for flavouring beverages.

**Oil of ginger:**

Dried unscraped ginger is used for the preparation of the volatile oil. It is coarsely ground, charged into a still and distillation carried out with direct steam. The oil primarily used as a flavouring in confectionery and table sauces, and for soft drinks. It is used to a limited extent in



perfumery to impart an individual note to the compositions of oriental type and also in toilet waters. A limited amount of ginger oil may be added to the oleoresin to restore balance between aroma and pungency.

### **Oleoresin:**

The oleoresin is extracted from dried and unpeeled rhizomes, ground to a coarse powder, by percolation with a solvent, usually acetone.

The oleoresin has received much attention in trade, it has many advantages over the dried spice. It is amenable to standardization with respect to both strength and quality and it is free from the bacterial load, usually associated with dried ginger. The oleoresin is usually spread on a sterile edible carrier, such as salt or dextrose and made available to the users in the form of dispersed extract of the same strength as the ground spice. The use of dispersed extract facilitates better distribution of flavour in the product and also its standardization.

(Adamson, Rep.trop.prod. Inst., Lond.,  
No:G56,1971,25,21-22).

### **Medicinal uses in Siddha:**

**Uses** : Used to treat Indigestion, hyperacidity cough, asthma, dyspnoea, diarrhoea, oedema, stomach disorders, anaemia, arthritis diseases of kapham, cardiac diseases , polyuria, ascites.

**Medicinal uses in Ayurveda:**

**Uses** : Cardiac diseases, hiccup, oedema, coryza, anorexia, piles, colic, filariasis, anaemia, dysuria, haemorrhage, wounds, nausea, vomiting.

- Medicinal plants of India (Volume 2) By

S.N. Yoganarasimhan

**Unani:**

Carminative, digestive, aphrodisiac, sedative of pains due to Rheei, removes viscid matter, strengthens memory, removes obstruction in the vessels, used in nervous diseases, incontinence of Urine, in balgham diseases.

- Indian Materia Medica, Page - 1313

## GUNAPADAM ASPECT

### சுக்கு - Chukku

வேறு பெயர்கள்:

அருக்கன், அதகம், ஆர்த்ரகம். உபகுல்லம்,  
உலர்ந்த இஞ்சி, கடுபத்திரம், சுக்கு, சுண்டி, சொண்டி,  
சௌபன்னம், சௌவர்ணம், நவசுறு, நாகரம், மநௌஷதம்,  
விச்வபேஷஜம், விடமூடிய அமிர்தம், வேர்க்கொம்பு.

- குணபாடம் மூலிகை வகுப்பு 7ம் பதிப்பு, 2003.

பக்கம்-470.

சுக்கின் பெயர்கள்:

“மகத்தான வர்க்கமென்று, நாகராதி என்று  
மடவான, வீயமென்றதற்குப் பேரு  
அகத்தான, வகநாதமென்றும் பேரு  
அருளினோம், வலதமென்றதற்குப் பேரு  
வகத்தான, வர்க்கொம் பென்றும் பேரு  
வசனித்தோம், மஞ்சத்த மென்றும் பேரு  
நகத்தான, நாக்கு மென்றும் பேரு  
நளினமதாய், சொல்லிவிட்டேன் சுக்கின் பேரே”.

உரை:

வர்க்கம், நாகராதி  
வீயம், வகநாதம்  
வலதம், வர்க்கொம்பு  
மஞ்சத்தம், நாக்கு என்பன சுக்கின் பெயர்கள்

பஞ்ச காவிய நிகண்டு, முதல் பதிப்பு -

பக்கம் - 221.

சரசுவதி மகால் வெளியீடு எண்: 418.

**சாம்பசிவம் பிள்ளை அகராதி வேறுபெயர்கள்:**

வீரம்

சிங்கி

நாகமலி

சௌபாக்கியம்

சுண்டி என்று பெயர்.

**சுக்கின்பேர்:**

“சுக்குனுடப் பேர்தனையே சொல்லக்கேளு

சுண்டியாங்கல் வீதம் விசுவமாகும்

முக்குனுட நாகமாம் பேஷமுமாகும்

முக்கிரமங் கற்பத்திரஞ் சிறுங்கின் பேர்

நக்கினுட தாத்திரிபஞ் சாதகமுமாகும்

சாங்கமர யுறப்புமங் கசப்புமாகும்

பக்கினுடத் திரிதோஷ மானியாகும்

பரிபாணை நாமமெல்லாஞ் சுக்குக்காமே”.

- போகர் நிகண்டு 1200, பக்கம்-195.

**இதன் பொருள்:**

சுண்டி, கால்வீதம், விசுவம், நாகம், பேஷம், கற்பத்திரஞ்சிறுக்கி, தாத்திரிபஞ்சாதகம், உறப்பு, கசப்பு, திரிதோஷமானி இவை எல்லாம் சுக்கின் பேராகும்.

உலர்ந்த இஞ்சியே சுக்கெனப்படும்.

**VERNACULAR NAMES:**

|                   |   |   |
|-------------------|---|---|
| Tamil             | : | Dried – Shukhu, chukku<br>Fresh – Inji  |
| English           | : | Dried Ginger  |
| Sanskrit          | : | Sranga Vera, Sringa-beram;<br>Dried-sunta, Nagara, Nagaram,<br>Maha-ous hadam<br>Fresh- Ardhrakam, Varam, Katu-Patram |
| Hindi             | : | Adrak, ada  |
| Ger               | : | Ingwer  |
| Kannada           | : | (Dried)-Vona-shunti<br>(Fresh)-Hashi-shunti   |
| Malayalam         | : | Chukka  |
| Telugu            | : | Dried - Sonti<br>Fresh – Inji   |
| Bengali & Punjabi | : | Dried-sonth<br>Fresh-Adrak, Ada, Adi  |
| Gujarathi         | : | Adu   |
| Kashmiri          | : | Sho-ont   |
| Malay             | : | Hulya-kring   |
| Burma             | : | Dried-Gingi-Kyaw<br>Fresh- Gin-sin  |
| Sinh              | : | Inguru  |
| Arabian & Persian | : | Zanjabil  |
| Burm              | : | Fresh-Gin-sin; Dried – Ginsi- Kyaw  |

பயன்படும் உறுப்பு : கிழங்கு (உலர்ந்தது)

சுவை : கார்ப்பு

தன்மை : வெப்பம்

பிரிவு : கார்ப்பு

செய்கை:

வெப்ப முண்டாக்கி - Stimulant

பசித்தீத்தூண்டி - Stomachic

அகட்டுவாய் வகற்றி - Carminative

உமிழ்நீர் பெருக்கி - sialogogue

குணம்:

“வாதப் பிணிவயி றூதற் செவிவாய்

வலிதலை வலிகுலை வலியிரு விழிநீர்

சீதத் தொடுவரி பேதிப் பலரோ

சிகமலி முகமக முகமிடி கபமர்

சீதச் சுரம்வரி பேதச் சுரநோய்

தெறிபடுமெனமொழி சுவர்புலி தனிலே

ஈதுக் குதவுமி தீதுக் குதவா

தெனும்விதி யிலைநவ சுறுகுண முனவே”.

- தேரையர் குணவாகடம்

சுக்கினால் வாதநோய், வயிற்றுப்பிசம், செவிக்குத்தல், முகநோய், சிரநோய், குலைவலி, சீதபேதி, பலவித அரோசகம், அலிமுகப் பாண்டு, வயிற்று குத்தல், கபசீத சுரம் முதலிய சுரரோகங்களாகிய இவை நீங்குமென்று சொல்லுவர்.

“சூலை மந்தம் நெஞ்செரிப்பு தேடமேப் பம்மழலை  
மூலம் இரைப்பிருமல் மூக்குநீர் - வாலகப  
தேடமதி சரந் தொடர்வாத குன்மநீர்த்  
தேடம்ஆ மம்பேருக்குக் கக்கு”.

- அகத்தியர் குணவாகடம்

சுக்கினால் விலாக்குத்தல், அசீரணம், மார்பெரிச்சல், புளியேப்பம்,  
தோஷகுணம், வெப்பம், ஆசனநோய், சுவாசம், காசம், ஜலபீனிசம், நீரேற்றம்,  
மேகவாதகுன்மம், ஜலதோஷம், சீதகிரகணி போம்.

ஆயினும் இதனாலுண்டாகும் ஆரோக்கியத்தை கூறுமிடத்தில்  
இந்நோய்க்குதவும், இந்நோய்க்குதவாது என்னும் நியதியில்லாததால் சகல  
ரோகங்களுக்கும் உபயோகப்படத்தக்கதாகும்.

தேரையர் மொழிகுவர் எனக் குணபாடங்களை கூறியிருப்பதை  
உன்னிப்பார்க்கில், சுக்கு இந்நோய்க்கு உதவும், இந்நோய்க்கு உதவாதெனவும்  
விதியில்லை யென்றும் சொல்லியிருப்பதுந் தவிர இச்சுக்கு மூர்த்திகள்  
சொருபமென்று சொல்லும் திரிகடுகத்தின் முதன் மருந்தாயும் ஆயுள்வேதியர்  
கையிலெடுக்கும் ஆயுதமாயும் சிருஷ்டி கர்த்தாவாகிய பிரமனைத் தனக்கு  
அதிதேவதையாய்ப் பெற்றிருப்பதாயும் பிரம்மகுலமாயும் பாக பேதங்களினால்  
அனந்த ஓளஷத ரூபங்களாயும், மகௌஷதம் என்னும் சஞ்சீவியின் பேராகிய  
கோடதகம் என்றும் நாமங்களைக் கொண்டிருப்பதாயும் தேவாராதனைக்கும்  
உபயோகப் படுவதாயும் இருப்பதினால் சகலரோகங்களையும் நீக்கும் என்பது  
கருத்து.

- அற்புதசிந்தாமணி” என்னும் பதார்த்த குண சிந்தாமணி,

பக்கம்-243.

**சுக்கின் குணம்:**

“சுக்குறுஞ் சிறப்பைக் கூறின் சுவைகடு லகுவே ஸ்நித்த  
மிக்குறு முஷ்ணம் வீர்யம் வியன்பாக மதுரமாகுந்  
தக்கிலாக் கபமே வீக்கந் தவிர்த்திடும் பின்னும் பித்தம்  
புக்குழல் சுவாசங் காசம் புரியுமஸ்லீ பதத்தினோடு.”

**இதன் பொருள்:**

**சுக்கு :-** கடுசுவை, உஷ்ணவீர்யம், லகு, மதுரவிபாகம்  
இவற்றையுடையது.  
கபம், வீக்கம், பித்தம், சுவாசம், காசம், ஸ்லீபதம் முதலிய  
பிணிகளையும் போக்கும்.

- பதார்த்த பஞ்ச குண மஞ்சரி, பக்கம்-143.

தொகுப்பாசிரியர் - எஸ். கிருஷ்ணாராவ்.

**சுக்கின் சுத்திமுறைகள்:**

- மேல் தோல் சீவி எடுக்கவும்

- டி.வி. சாம்பசிவம்பிள்ளை அகராதி, பக்கம்-164.

- “பச்சை மலங்கழிக்கும் பற்றிய தோல் நீக்கிவிடின்  
மெய்குத்தி யாமென்ப மேல்.”

**இதன் பொருள்:**

சுக்கை பச்சையாக உபயோகிக்கின் மலத்தைக் கழிக்கும். இதன் மேல்  
தோலைச் சீவி நீக்குவதே இதன் சுத்தி எனப்படும்.

- பதார்த்த பஞ்ச குண மஞ்சரி, பக்கம் - 143.

தொகுப்பாசிரியர் எஸ். கிருஷ்ணாராவ்.

- ஓர் எடை சுக்குக்கு இரண்டு எடை சுண்ணக்கல் சேர்த்து தாளித்து,  
ஒரு சாமம் சென்ற பின் கழுவி உலர்த்தி மேல் தோலைச் சீவி நீக்க  
வேண்டும்.

- சிகிச்சாரத்நதீபம் என்னும் வைத்திய நூல், பக்கம்-28.



- சுக்கின் மேலுள்ள தோலை நீக்கிவிட்டு அதன்மேல் சுண்ணாம்பைப்பூசி அது உலர்ந்த பின் சுக்கைத் தட்டி உலர்ந்த சுண்ணாம்பை நீக்கிவிட்டு பத்திரப்படுத்த சுக்கு சுத்தியாகும்.

- சரபேந்திர வைத்திய ரத்னாவளி, மூன்றாம் பதிப்பு,

பக்கம்-495.

- கற்சுண்ணத்தில் இதைச் சேர்த்துத் தாளித்துக் கழுவி எடுத்து மேல்தோலைச் சீவி நீக்கிக் கொள்ள வேண்டும் அல்லது மேல்தோல் சீவி சுண்ணாம்பு தடவி உலர்த்தி எடுக்கத் தூய்மையாகும்.

- மருந்து செய் இயலும், கலையும்,

பக்கம்-284, முதற்பதிப்பு

#### வகைகள்

1. மாச்சுக்கு
2. பொடிச்சுக்கு எனக் கூறப்பட்டுள்ளது.

- The former is succulent and large the later is fibrous and small.

- T.V. சாம்பசிவம்பிள்ளை அகராதி பகுதி-1,

பக்கம் - 163.

#### சுக்குக் கற்பம்

“சுக்கினைப் பொடி செய்து சூரணமாக்கி  
யிக்கிரத் திலுண்டிடவயிற் றெரிவுபொங்  
குடிநீர் செய்ததைக் குடிநீத நன்மையாகம்”.

- தேரன் வெண்பா.

#### பொருள்

சுக்குத்தூளைக் கரும்பு இரசத்தில் சேர்த்துக் காலையில் உட்கொள்ள, வயிற்றெரிச்சல் நீங்கும். சுக்குக் குடிநீர் எப்போதும் உடலுக்கு நன்மையைச் செய்யும்.

▪ சுக்கு கற்பம்

“காலமே யிஞ்சியுண்ணக் கட்டினார் சூத்திரத்தில்  
மாலையதி லேகடுக்காய் மத்தியானஞ் சுக்கருந்த  
சூலமே தேகமடா சுக்கிலத்தைக் கட்டிவிடும்  
ஞாலமே லுனதுவிந்து நற்றேங்காய் போலாமே.”

- திருவள்ளுவ நாயனார் கற்பம்-300.

“சீந்திநீர்க் கண்டம் தெரிசுக்குத் தேனளைய்  
மோந்தபின் யார்க்கும் தலைக்குத்தில் - காந்தி  
மலைக்குத்து மாலையனை வள்ளுவர் முப்பாலாற்  
தலைக்குத்துத் தீர்வு சாத்தற்கு”.

- திருவள்ளுவ மாலை, தாமோதரனார், பக்கம் - 7.

இதன் பொருள்

முன் கேட்கப்பட்ட நூல்களிலெல்லாம் பல சொற்குற்றங்களும்  
பொருட்குற்றங்களும் கண்டு பொறாமல் தலையில் அறைந்துகொண்டு  
வந்தமையால் புண்பட்டுக் குத்தல் உண்டாயிருந்தது. திருக்குறளின் கண் ஓர்  
குற்றமுங் காணப்பெறாமையால் அது நீங்கிற்று. எப்படி அம்மூன்றுபாலும்  
அதற்கு மருந்தாகுமோ அப்படியே இதற்கு “சீந்திநீர்ச் சருக்கரை,  
சிதைக்கப்பட்ட சுக்கு, தேன் இம்மூன்றும் மருந்தாகும்.

## வாத நோய்க்கு சுக்கு சேரும் மருந்துகள்

### 1. சுக்கு தூரணம்:

#### உபயோகம்:

இதைக்கொடுக்க வாயுவைக் கண்டித்து, பசியை உண்டாக்கும். ஆதிசாரம், இரைப்பு, செவிநோய், தலைநோய், வாதம், குன்மம், மந்தம், கபம், சூலை முதலியவைகளுக்கு இதை அடிக்கடி கொடுக்கலாம்.

அளவு: 10-20 கிளேன்ஸ் (650 to 1300 மில்லி கிராம்) கொடுக்கலாம்.

- பிராண ரசஷாமிர்த சிந்து என்னும் வைத்தியர்த்ன சங்கிரகம்

பக்கம் - 75,

### 2. காஸகோடி ரசம்:

|                 |            |                        |            |
|-----------------|------------|------------------------|------------|
| சுக்கு          | - 3 வராகன் | மிளகு                  | - 3 வராகன் |
| கந்தகம்         | - 1 வராகன் | கடுக்காய்              | - 3 வராகன் |
| தாளகம்          | - 1 வராகன் | தான்றிக்காய்           | - 3 வராகன் |
| இலிங்கம்        | - 1 வராகன் | நெல்லிவற்றல்           | - 3 வராகன் |
| நாபி            | - 2 வராகன் | சிவப்பு அல்லிக்கிழங்கு | - 1 வராகன் |
| சூதம்           | - 1 வராகன் | நெருஞ்சிவேர்           | - 1 வராகன் |
| அரிசித்திப்பிலி | - 3 வராகன் | நேர்வாளம் (அத்தி)      | - 7 வராகன் |

#### செய்முறை:

மேற்கண்ட சரக்குகளை கல்வத்திலிட்டு சிகப்பு அல்லிக் கிழங்குச் சாறுவிட்டு 3 சாமம் அரைத்து குன்றியளவு மாத்திரைகளாக செய்து நிழலில் உலர்த்தி சீசாவில் பத்திரப்படுத்தவும்.

#### உபயோகம்:

இம்மாத்திரையை தினம் 2 வேளை கொள்ள இரண்டொரு தடவை மல சோதனையாகும். அதிகமாக இருப்பின் மருந்தினளவை குறைத்து கொள்ள வேண்டும்.

#### தீரும் நோய்:

- திரிபலாதி தூரணத்தில் கொடுக்க - தலைநோய், இருமல் போகும்
- முடக்கற்றான் சாற்றில் கொடுக்க - கீல்வாயுபோகும்

- சிசிக்காரத்தின தீபம் - பாகம் - II page 172

### 3. சிரோத்தின் ஸ்நானத் தயலம்:

#### சுக்கு

|                  |         |                 |                |
|------------------|---------|-----------------|----------------|
| நல்லெண்ணெய்      | - 1 படி | சிற்றாமுட்டி    | கடுக்காய்      |
| பால்             | - 1 படி | சந்தனம்         | நெல்லிமுள்ளி   |
| கரிசாலை          |         | தேவதாரம்        | தான்றிக்காய்   |
| வில்வயிலை        |         | அகில்கட்டை      | சோம்பு         |
| நொச்சிகொழுந்து   |         | முத்தக்காசு     | வில்வ பழ ஓடு   |
| நெல்லிக்கொழுந்து |         | முதியார்கூந்தல் | சாம்பிராணி     |
| அல்லிக்கொழுந்து  |         | கச்சோலம்        | கஸ்தூரி மஞ்சள் |
| அமுக்குரா        |         | சீரகம்          | வெட்டிவேர்     |
| தண்ணீர்விட்டான்  |         | நன்னாரி         | சிவனார்வேம்பு  |
|                  |         | கோஷ்டம்         | கொல்லன்கோவை    |

இவைகளை சமஅளவு எடுத்து சூரணித்து மேற்படி எண்ணெயுடன் கலந்து கடுகுபதமாக காய்ச்சிக்கொள்ளவும்.

#### உபயோகம்:

- 1 மண்பலம் தலை முழுகிவர நோய்கள் தீரும்
- விடாமல் தலைமுழுகிவர சகல நோய்களும் தீரும்.

#### தீரும் நோய்கள்:

நாலியிரத்து நாநாற்று நாற்பத்தி எட்டு நோய்கள் நீங்கும்.

- தன்வந்தரி வைத்தியம் - 1000 - பக்கம் 68, 69, 70

#### 4. சகல வாதங்களுக்கு சூரணம்:

சுக்கு

|              |              |
|--------------|--------------|
| சடாமஞ்சில்   | ஏலம்         |
| மிளகு        | திப்பிலி     |
| அதிமதுரம்    | கடுக்காய்    |
| கிராம்பு     | நெல்லிமுள்ளி |
| சந்தனம்      | வாய்விளங்கம் |
| தாளிசபத்திரி | பெருங்காயம்  |
| சிறுநாகப்பூ  | சவுட்டுமண்   |
| கடுகுரோகினி  |              |

- இவைகள் சம எடையில் எடுத்துக் கொள்ளவும்

- மேற்கொண்ட சரக்குகளை சூரணித்து அதற்கு சமஎடை சீனி கூட்டிக்

கொள்ளவும்.

அளவு: வெருகடியளவு

தீரும் நோய்கள்:

வாதம், பித்தம், சந்துவாதம், முடக்குவாதம், முகவாதம், இடுப்பு வாதம், சகல வாய்வும் நீங்கும்.

- தன்வந்தரி வைத்தியம் - 1000, Page – 136

#### 5. லசுன பிஷ்டி:

வெள்ளைப் பூண்டு 100 பலம் மேல்தோல் வோக்கி வைத்து கொண்டு,

சுக்கு

|             |           |
|-------------|-----------|
| மிளகு       | ஏலம்      |
| திப்பிலி    | சீரகம்    |
| சத்திசாரம்  | யவச்சாரம் |
| பெருங்காயம் | ஓமம்      |

3 பலம் எடுத்து அரைத்து

நெய் 1 சேர், ஆமணக்கெண்ணெய் 1 சேர் விட்டு எரித்து, நெய் பாத்திரத்தில் 5 நாள் வைக்கவும்.

தீரும் நோய்கள்:

வாதம், வலிப்பு, குன்மம் தீரும்.

- சரபேந்திரர் வைத்திய முறைகள் - Page 35

## 6. மாவுத் தைலம்:

உளுந்து 1 படியுடன் எட்டுபடி தண்ணீர் விட்டு ஒரு படியாய்க் காய்ச்சி அதில், நல்லெண்ணெய் 1 படி விட்டு,

|            |              |          |             |
|------------|--------------|----------|-------------|
| சுக்கு     | வெட்பாலை     | உளுந்து  | காட்டுபயிறு |
| அதிமதுரம்  | பாலை         | மிளகு    | நாகமுட்டி   |
| சிறுமுட்டி | சிறுகாஞ்சோரி | திப்பிலி | இந்துப்பு   |
| நெருஞ்சில் | சிறுரத்தை    | சதகுப்பை |             |

-  $\frac{1}{4}$  பலம் கூட்டி பசுவின் பால்விட்டு அம்மியில் நன்றாக அரைத்து எண்ணெயிற்போட்டு காய்ச்சி உள்ளுக்கு கொடுத்து, நசியமிட்டு, தலையில் தேய்த்து, காது இரைச்சல், காதுவலி, திமிர்வாதம் இவைகளுக்கு தரலாம்.

- சரபேந்திரர் வைத்திய முறைகள் - Page 23

## 7. வாதராட்சதச் சூரணம்:

|                          |                 |
|--------------------------|-----------------|
| சுக்கு                   | கற்பூரசிலாசத்து |
| காந்தம்                  | கல்நார்         |
| சங்காரி (முதியார்உந்தல்) | கல்மதம்         |
| அன்னபேதி                 | கந்தகம்         |
|                          | கற்பூரம்        |
|                          | சகஸ்ரவேதி       |

பாதரசம் - 4 வராகன்

வெண்காரம் - 4 வராகன் கட்டி

கருஞ்சீரகம்

அரத்தை

ஓமம்

மிளகு

திப்பிலி

வகைக்கு 1 பலம் எடுத்து, இவைகளை எல்லாம் சேர்த்து தூள் செய்து வஸ்திரகாயம் பண்ணவும்.

- இச்சூரணத்தை நோயின் வலுவுக்கு தகுந்த அனுபானத் தோடு கொடுக்க வாதநோய் தீரும்.

## 8. குக்கிலாதி சூரணம்:

|             |          |
|-------------|----------|
| சுக்கு      |          |
| மிளகு       | ½ பலம்   |
| திப்பிலி    |          |
| திரிபலை     | - ½ பலம் |
| சீரகம்      | - ½ பலம் |
| பறங்கிபட்டை | - 2 பலம் |

நன்றாக தூள்செய்து வைத்துக்கொள்ளவும் குக்குலு (வெள்ளை குங்கிலியம்) பலத்தை எடுத்து உலைக்குள் வைத்து 10 வரட்டியில் புடம்போட்டு எடுத்து வைத்துக்கொண்டு, பிறகு வேப்பம் பட்டை கஷாயத்துள் டோலா யந்திரமாக கட்டி சுத்தி செய்து, அதன்பிறகு எருமை வெண்ணெயிற் போட்டுக் காய்ச்சி செய்து, வெள்ளைத் துணியில் தேய்த்துப் பிழிந்து முன் சொன்ன சூரணத்துடன் இதையும் சூரணித்து கலந்து சாப்பிட தீரும்.

## தீரும் நோய்கள்:

வாதபிடிப்பு, தெறிப்பு, குடைச்சல், கைகால் எரிவு

- சரபேந்திரர் வைத்திய முறைகள் - page 99

## 9. மஹாவாத வித்வம்சனி:

|                |          |                     |          |
|----------------|----------|---------------------|----------|
| வாலை இரசம்     | - 1 பலம் | சுக்கு              | - 1 பலம் |
| கந்தகம்        | - 1 பலம் | அப்பிரகச் சிந்துரம் | - 1 பலம் |
| கருவங்கபற்பம்  | - 1 பலம் | பொரித்த வெங்காரம்   | - 1 பலம் |
| வெள்வங்கபற்பம் | - 1 பலம் | மிளகு               | - 1 பலம் |
| உலோகசிந்துரம்  | - 1 பலம் | நாபி (சுத்தி)       | - 2 பலம் |
| தாமிரபற்பம்    | - 1 பலம் |                     |          |

### செய்ப்பாகம்:

இங்கு கூறப்பட்ட 12 சரக்குகளையும் கல்வத்திலிட்டு திரிகடுகு, நிலப்பனங்கழங்கு, சித்திரமூலவேர்ப்பட்டை, கோஷ்டம் கஞ்சா முதலியவற்றின் கஷாயத்தால் தனித்தனி நான்கு ஜாமமரைத்து பின்னர்க் கையாந்தகரை நொச்சி, இஞ்சி, ஆடாதோடை, எலுமிச்சம்பழம் இவைகளின் சாற்றில் முன்போலவே நான்கு ஜாமமரைத்து உளுந்தளவேனும் மிளகளவேனும் மாத்திரைகள் செய்து நிழலுலர்த்தி எரித்து கொள்க.

### பிரயோகம்:

தேனிலாவது இஞ்சி ரசத்திலாவது வேளைக்கு ஒரு மாத்திரையாகத் தினம் இருவேளை மூன்று (அ) ஐந்து நாள் கொடுக்க வாதரோகம், சூலை, சிலேத்மரோகம், கிராணி, ஜன்னிபாதசுரம், மண்ணீரல் வீக்கம், அபஸ்மாரம், பித்த சீதளம், முதலிய நோய்கள் தீரும்.

### பத்தியம்:

நோயின் வன்மை, மென்மைக் கிசைந்தவாறு முறையே கடும் பத்தியமாகவும், இச்சாபத்தியமாகவும் இருத்தல் வேண்டும்.

**சுக்கைப் பிரதானமாகக் கொண்டு செய்யும் சில மருந்துகள்**

#### 1. சுண்டியாதி கஷாயம்:

- அனுபவ வைத்திய தேவ ரகசியம், பக்கம்-532, 4-ம் பாகம்.

#### 2. சுண்டியாதி சூரணம்:

- அனுபவ வைத்திய தேவ ரகசியம், பக்கம்-393, 3-ம் பாகம்.

#### 3. தயிர்சுண்டிச் சூரணம்

- சித்த வைத்திய பதார்த்த குணவிளக்கம் மூலவர்க்கம், பக்கம்-370.

#### 4. தயிர்சுண்டி சூரணம்:

- சித்த வைத்திய திரட்டு , இரண்டாம் பதிப்பு , பக்கம்- 219.



**5. நாகறாதி லவணம்**

- சித்த வைத்திய பதார்த்த குணவிளக்கம் மூலவர்க்கம், பக்கம்-370.

சி. கண்ணுசாமிபிள்ளை அவர்கள், 1998ம் ஆண்டு பதிப்பு.

**6. சுக்குத்தலைம்**

- சித்த வைத்திய திரட்டு, பக்கம்-275.

**7. சுண்டி கிருதம் :**

- அனுபவ வைத்திய தேவரகசியம், பக்கம்-403.

**8. சுக்குத்தூள்**

- மருந்து செய்யும் இயலும் கலையும்.

ஆசிரியர் தேவ ஆசீர்வாதம் சாமுவேல் எம்.டி (சித்தா)

**9. சவுபாக்கிய வடகம்:**

- பிராணரஷாமிர்த சிந்து, பக்கம் - 222, 2 ம் பதிப்பு.

**10. நாகராதியுண்டை:**

- அனுபோக வைத்திய நவநீதம், 8ம் பக்கம், பக்கம் - 3.

**11. நாகராதி இளகம்:**

- அனுபோக வைத்திய நவநீதம், பக்கம் - 5.

**12. நாகராதிநெய்:**

- அனுபோக வைத்திய நவநீதம், பக்கம் - 10.

**சுக்கு சேரும் பிற மருந்துகள்**

**1. சிலேத்தும் சுரக் கியாழம்**

-கண்ணுசாமிப் பரம்பரை வைத்தியம், பக்கம்-53.

**2. சர்வசுரக் கியாழம்**

- கண்ணுசாமிப் பரம்பரை வைத்தியம், பக்கம்-57.

**3. சீதள இருமலுக்கு கியாழம்**

வேளைக்கு இரண்டு அவுன்ஸ் வீதம் தினம் 3 வேளைக் கொடுத்து  
வரவும்.

- கண்ணுசாமிப் பரம்பரை வைத்தியம், பக்கம்-57.

4. பாஸ்கர லவணச் சூரணம்

- கண்ணுசாமிப் பரம்பரை வைத்தியம், பக்கம்- 95.

5. தயிர் சுண்டி சுக்குச் சூரணம்

- கண்ணுசாமிப் பரம்பரை வைத்தியம், பக்கம்-113.

6. செளபாக்யசுண்டி லேகியம்

- குணபாடம் முதல்பாகம்இ பக்கம் - 473.

7. பூர மாத்திரை

8. பால சஞ்சீவி மாத்திரை

- கண்ணுசாமிப் பரம்பரை வைத்தியம், பக்கம்-160.

9. திரிசூத மெழுகு

- கண்ணுசாமிப் பரம்பரை வைத்தியம், பக்கம்-213.

10. இருமல் கஷாயம்

- சிகிச்சாரத்நதீபம் என்னும் வைத்திய நூல், பக்கம்-92.

11. மேக சாந்தி சூரணம்

- சிகிச்சாரத்நதீபம் என்னும் வைத்திய நூல், பக்கம்-108.

12. அக்கினிமுகச் சூரணம்

- சிகிச்சாரத்நதீபம் என்னும் வைத்திய நூல், பக்கம்-124.

13. தீபாக்கனி மாத்திரை

- சிகிச்சாரத்நதீபம் என்னும் வைத்திய நூல், பக்கம்-146.

14. வியாக்கிரி கிருதம்

- சிகிச்சாரத்நதீபம் என்னும் வைத்திய நூல், பக்கம்-205.

15. மணிமந்திரச் சூரணம்

- அகத்தியர் அட்டவணை வாகடம், பக்கம்-69.

16. நிலவாகைச்சூரணம்

- அகத்தியர் அட்டவணை வாகடம், பக்கம்-69.

17. ஆயில் பட்டை சூரணம்

- அகத்தியர் அட்டவணை வாகடம், பக்கம்-90.

18. நாகபற்பம்

- அகத்தியர் அட்டவணை வாகடம், பக்கம்-109.

19. பால்கிராணி தீர் மருந்து

- அகத்தியர் அட்டவணை வாகடம், பக்கம்-169.

20. நாயுருவி நெய்

- அகத்தியர் அட்டவணை வாகடம், பக்கம்-277.

21. சூலைப்பிடிப்புக்கு சுக்கு பற்று

- அகத்தியர் அட்டவணை வாகடம், பக்கம்-277.

22. கிராணிக்கு சூரணம்

- தேரையர் வைத்தியம் - 1000 தாமரை நூலகம், பக்கம்-19.

23. கபாட மாத்திரை

24. சுண்டைவற்றல் திராவகம்

- இராமதேவர் என்னும் யாகோபு வைத்திய சிந்தாமணி -700.

25. மந்தாரகாசத்துக்கு மாத்திரை

26. சூலைவாதத்துக்கு மாத்திரை

27. கிராணிகளுக்கு உருண்டை

- சரபேந்திர வைத்திய முறைகள், பக்கம்-78.

28. கபாடக்குளிகை

- கைகண்ட அனுபோக வைத்தியப்பெருங்குறள், பக்கம்-71.

29. பஞ்ச தீபாக்கினி சூரணம்

30. கர்ப்பூராதி சூரணம்

பயன் : 10-30 நெல்லெடை சூரணத்தை தேனில், கர்ப்பூரவல்லி

இலைச்சாறு, தாளிசபத்திரிக் கியாழம் ஆகிய ஏதாவதொன்றில்

சேர்த்துக் கொடுக்க இருமல், இரைப்பு, குன்மம், வாதம், சுரம் நீங்கும்.

- மருந்துசெய் இயலும் கலையும், பக்கம்-111.

**31. வெள்ளை எண்ணெய்**

- மருந்துசெய் இயலும் கலையும், பக்கம்-148.

**32. வாத சுரோணிதத்துக்கு நெய்**

- தேரையர் வாகடம், பக்கம்-68, பதிப்பு ஆண்டு  
அக்டோபர் 2000.

**33. முப்பிணிக் குடிநீர்**

- தேரையர் வாகடம், பக்கம்-71.

**34. பஞ்ச தீபாக்கினி லேகியம்**

- அனுபவ வைத்திய தேவரகசியம், பக்கம்-405.

**35. கண்காச மாத்திரை**

**36. தாளிசாதிவடகம்**

கபம், வாதம், கிரகணி, அலசம், வமனம், அதிசாரம், பக்கநோய்  
முதலியவைகள் தீரும்.

- சித்த வைத்திய திரட்டு, பக்கம்-219.

**37. இலவணகறுப்பு**

- கண்ணுசாமி பரம்பரை வைத்தியம், பக்கம்-440.

**38. மூசாம்பர மாத்திரை**

- அனுபவ வைத்திய தேவரகசியம், பக்கம்-442.

**39. கந்தக கறுப்பு**

- கண்ணுசாமி பரம்பரை வைத்தியம், பக்கம்-442.

## MATERIALS AND METHODS

### **Selection of the drug :**

**Chukku Chooranam** was selected with reference from **Guanapandam – Mooligai vaguppu 1<sup>st</sup> part, page 470.**

### **Collection of the drug :**

Chukku was collected from Krishan pillai raw drug store in Tiruneveli town, after proper indentification.

### **Purification of the test – drug :**

The scraped dried ginger was made into a fine powder (Chooranam) and filtered by pure white cloth (Vashtirakayam)

### **Purification of the test drug :**

**Chukku Chooranam** was moistened with cow's milk. An earthen pot was taken and half filled with a mixture of cow's milk and water. The mouth of the pot was covered with a cotton cloth and tied around its neck. The moistened chooranam was placed on the cloth and another earthen pot was placed over the mouth of the completely covering the chooranam and the edges of the pots were covered with moistened cloth. Then the contents were boiled till the chooranam was cooked (pittaviyal). Then it was taken dried in and shade and preserved. The proportion was used within 3 months since the life time of the chooranam was 3 months from the manufacturing.

**Route of Administration:**

Enteral

**Dose :**

One gram twice a day with warm water after food. The prepared “**Chukku Chooranam**” was used for the treatment of ‘**Azhal Keel Vayu**’ and was analysed by the following methods.

1. Bio – Chemical analysis
2. Pharmacological analysis
3. Microbiological analysis
4. Clinical assessment.

## BIO - CHEMICAL ANALYSIS

### BIO - CHEMICAL ANALYSIS OF CHUKKU CHOORANAM

#### PREPARATION OF THE EXTRACT

5gms of Chooranam was weighed accurately and placed in a 250ml clean beaker. Then 50ml distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It was cooled and filtered in a 100ml volumetric flask and then it is made up to 100ml with distilled water. This fluid is taken for analysis

#### QUALITATIVE ANALYSIS

| S.no | Experiment   | Observation                             | Inference                           |
|------|--|---|-------------------------------------|
| 1.   | <b><u>Test for calcium</u></b><br>2ml of the above prepared extract is taken in a clean test tube. To this add 2 ml of 4% ammonium oxalate solution. | A white precipitate is formed           | Indicates of the presence calcium   |
| 2.   | <b><u>Test for sulphate:</u></b><br>2ml of the extract is added to 5% barium chloride solution.  | A white precipitate is formed           | Indicates of the presence sulphate. |
| 3.   | <b><u>Test for chloride</u></b><br>The extract is treated with silver nitrate solution.  | A white precipitate is formed           | Indicates of the presence Chloride  |
| 4.   | <b><u>Test for carbonate</u></b><br><i>The substance is treated with concentrated Hcl.</i>   | <i>No brisk effervescence is formed</i> | Absence of Carbonate                |

|     |  |                                     |  |
|-----|--|-------------------------------------|--|
| 5.  | <b><u>Test for Strach</u></b><br>The extract is added with weak iodine solution.   | No Blue colours is formed           | Absence of Starch                                  |
| 6.  | <b><u>Test for iron</u></b><br><b><u>Ferric</u></b><br>The extract is treated with concentrated glacial acetic acid and potassium ferro cyanide. | No blue colour is formed            | Absence of Ferric Iron                             |
| 7.  | <b><u>Test of iron :</u></b><br><b><u>Ferrous:</u></b><br>The extract is treated with concentrated Nitric acid and ammonium thio cynate.         | Blood red colour is formed          | <b>Indicates the presence of ferrous irons</b>     |
| 8.  | <b><u>Test for phosphate</u></b><br>The extract is treated with ammonium molybdate and concentrated nitric acid.                                 | Yellow precipitate is formed        | <b>Indicates the presence of phosphate</b>         |
| 9.  | <b><u>Test for albumin</u></b><br>The extract is treated with Esbach's reagent.  | No yellow precipitate is formed     | Absence of albumin                                 |
| 10. | <b><u>Test for Tannic acid</u></b><br>The extract is treated with ferric chloride.   | No blue black precipitate is formed | Absence of Tannic acid                             |
| 11. | <b><u>Test for unsaturation</u></b><br><i>Potassium permanganate solution is added to the extract.</i>   | <i>It gets decolourised</i>         | <b>Indicates the presence unsaturated compound</b> |



|     |  |                         |   |
|-----|--|-------------------------|---|
| 12. | <b><u>Test for the reducing sugar</u></b><br>5ml of benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and added 8-10 drops of the extract and again boil it for 2 mts. | No colour charge occurs | Absence of Reducing Sugar                 |
| 13. | <b><u>Test for amino acid:</u></b><br>One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% ninhydrin is sprayed over the same and dried it well.                | Violet colour is formed | <b>Indicates the presence amino acid.</b> |

### **INFERENCE**

The given sample of **CHUKKU CHOORANAM** indicates the presence of **calcium, sulphate, chloride, ferrous iron, phosphate, unsaturated compounds & amino acid.**

**PHARMACOLOGICAL STUDIES**  
**ANALGESIC STUDY OF CHUKKU CHOORANAM ON**  
**ALBINO RATS BY TAIL-FLICK METHOD**

**AIM**

To study the analgesic effect of **Chukku Chooranam** on albino rats by Tail-flick method.

**MATERIALS AND METHODS**

**PREPARATION OF THE TEST DRUG**

1 gm of **Chukku Chooranam** was suspended in 10ml of distilled water using as suspending agent. This 1ml contains 100mg of the test drug.

**INSTRUMENT**

Hot water bath maintained at  $55^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$  was used as the source of stimulus.

**PROCEDURE**

Healthy albino rats weighing 100-200gms of both sexes were selected. The tail of each rat was dipped in the hot water bath and time taken for the rat to remove the tail from the water bath was noted. The rats that take more than 5 seconds to remove the tail are excluded from the equipment. Then the rats were divided into 3 equal groups, each group having 2 rats. The first group was given the solvent used to

suspended the drug and kept as untreated control. The second group was given the standard drug and kept as treated control. The third group was given the test drug 100mg/100gm, ½ hr and 1hr after drug administration. The rats are again tested by dipping the tail in the hot water bath. The time taken for the rat to remove the tail was noted as done initially.

The result of control group, standard group and drug treated group were tabulated and compared.

### **ANALGESIC EFFECT OF CHUKKU CHOORANAM**

| S.No. | Name of Drugs / Groups        | Dose / 100 gram body weight | Initial Reading | After Drug Administration |               |                 | Mean Difference |
|-------|-------------------------------|-----------------------------|-----------------|---------------------------|---------------|-----------------|-----------------|
|       |                               |                             |                 | ½ hr. Average             | 1 hr. Average | 1 ½ hr. Average |                 |
| 1.    | Control                       | 2ml                         | 2.5secs         | 2.5secs                   | 2.5secs       | 2.5secs         | 2.5sec          |
| 2     | Standard Paracetamol          | 20mg                        | 2.5secs         | 3.5secs                   | 5.0secs       | 6.5secs         | 6.5secs         |
| 3.    | Test Drug<br>Chukku Chooranam | 200mg                       | 2.5secs         | 3.5secs                   | 5.0secs       | 6.0secs         | 6.0secs         |

### **INFERENCE**

The test drug **Chukku Chooranam** has got **significant Analgesic Activity**.

## **ANTI – INFLAMMATORY STUDIES**

### **ACUTE ANTI-INFLAMMATORY STUDIES -**

#### **CARRAGEENIN INDUCED HINDPAW EDEMA METHOD**

##### **METHOD**

Carrageenin induced Hind paw edema method in Albino rats.

##### **AIM**

To evaluate the acute anti – inflammatory effect of **Chukku Chooranam** by carrageenin induced oedema method in albino rats.

##### **DRUG PREPARATION**

1gm of **Chukku Chooranam** was suspended in 10ml of distilled water using as suspending agent. This 1ml contains 100mg of the test drug.

##### **PROCEDURE**

Six healthy albino rats of either sex weighing between 100-120gm were selected. The volume of each hind paw was measured by using the mercury plethysmograph.

After the measurement of hindpaw of all the rats, they were divided into three groups each containing two rats.

First group was kept as control by giving distilled water of 2ml/100mg of body weight. The second group was given ibuprofen

20mg/100gm body weight and kept as standard. Third group was given test drug Chukku Chooranam 100mg/100gm body weight.

The drugs were administered orally, one hour after drug administration, 0.1ml 1% (W/V) of carrageenin suspension in water was injected in the plantar surface of hind paw of rats.

All the animals were given carrageenin injection subcutaneously. Three hour after carrageenin injection, the hindpaw volume was measured from the differences in the initial and final hind paw volume, the degree of the inflammation was calculated by taking the volume in the untreated control group as 100%.

The percentage of inflammation of the other group was calculated from the degree of anti – inflammatory effect of the treated and the test groups were calculated.

## **RESULTS**

The details of the experiment results are shown in the table.

## ACUTE ANTI INFLAMMATORY EFFECT CHUKKU

### CHOOANAM

| Group        | Drug                        | Dose/100gm<br>of body<br>weight | Initial<br>Reading<br>Average | Finial<br>Reading<br>Average | Mean<br>Difference | Percentage<br>inflammation | Percentage<br>inhibition |
|--------------|-----------------------------|---------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|--------------------------|
| Control      | Water                       | 1ml                             | 0.55                          | 1.4                          | 0.85               | 100                        | -                        |
| Standard     | Ibuprofen                   | 200mg                           | 0.55                          | 0.85                         | 0.03               | 35.2                       | 64.8                     |
| Test<br>drug | <b>Chukku<br/>Chooranam</b> | 100mg                           | 1.0                           | 1.25                         | 0.25               | 29.4                       | 70.6                     |

### INFERENCE

Thus **Chukku Chooranam** has got **significant acute anti inflammatory effect.**

# **CHRONIC ANTI – INFLAMMATORY EFFECT OF CHUKKU CHOORANAM IN RATS BY COTTON PELLETS GRANULOMA METHOD**

## **AIM**

Chronic Anti – Inflammatory effect of **Chukku chooranam**.

## **DRUG PREPARATION**

1gm of **Chukku Chooranam** was suspended in 10ml of distilled water. This 1ml contains 100mg of the test drug.

## **PROCEDURE**

Six healthy albino rats weighing 100 – 150gms were taken and divided in to three groups, each consisting of two rats.

In this procedure, the drugs were given daily for 7 days. Before giving the drug cotton pellets each weighing 10mg were prepared and sterilised in the autoclave for about 1hr under 15Hg atmospheric pressures, on the day of experiment, each rat was anaesthetised with ether to implant 10mg of sterilised cotton pellets subcutaneously in the lower abdomen two on each side after making suitable incision and sutured carefully.

First group was kept as control by giving distilled water of 2ml/100gm of body weight. To the second group, the standard drug Ibuprofen in a dose of 20mg/100gm body weight was given. The third group of animals was given tested drug Chukku Chooranam in a dose of 200mg/100gm of body weight. On the 8<sup>th</sup> day of the experiment, all the

rats were sacrificed and cotton pellets found to be surrounded by granulation tissue were removed and dried in hot air oven at 55<sup>0</sup>c - 60<sup>0</sup>c.

The average weight of granuloma of control group and treated group give an estimation of degree of Inhibitory activity of test drug.

## RESULTS

The details of the experiment result are shown in the table.

### CHRONIC ANTI INFLAMMATORY EFFECT OF CHUKKU CHLOORANAM

| Group                        | Dose/100gm of body weight | Cotton Pellet weight | Pellet weight to the Granuloma of drugs | Percentage of Inflammation | Percentage of Inhibition |
|------------------------------|---------------------------|----------------------|---|----------------------------|--------------------------|
| Control (water)              | 1ml                       | 10mg                 | 250mg                                   | 100                        | NIL                      |
| Standard (Ibuprofen)         | 20mg                      | 10mg                 | 55mg                                    | 22                         | 78                       |
| Test drug (Chukku Chooranam) | 100mg                     | 10mg                 | 125mg                                   | 50                         | 50                       |

## INFERENCE

The test drug **Chukku Chooranam** has got **significant chronic Anti-Inflammatory Effect**.



## **ANTIPYRETIC STUDY OF CHUKKU CHOORANAM IN YEAST INDUCED HYPER PYREXIA ALBINO RATS**

The test drug **Chukku Chooranam** was screened for its antipyretic activity with the help of yeast induced hyperpyrexia albino rats.

### **AIM**

To evaluate antipyretic activity of **Chukku Chooranam**.

### **PREPARATION OF THE TEST DURG**

1gm of **Chukku Chooranam** was dissolved in 10ml of water. 1ml of this preparation contains 100mg of the test drug.

### **YEAST INDUCED HYPERPYREXIA**

Six healthy albino rats of either sex, weighing between 80-100gm were selected. They were divided into 3 groups of 2 rats in each group. All the rats were made hyperthermic by giving subcutaneous injection of 12% of yeast in distilled water 1ml/100gm of body weight.

After 10 hours, the initial temperature (0 hr) was taken for all the rats. First group of rats were given 2ml of water and kept as control. The second group received 20mg/100gm of body weight of Paracetamol and the third one received the test drug Chukku Chooranam 200mg/100gm body weight.

The mean rectal temperatures for all the rats were recorded at 1½ hr, 3hr, and 4 ½ hours after the drug administration.

The difference between the 3 groups are measured and compared.

## RESULTS

The details of the experiment and the results were shown in the table.

### ANTIPYRETIC EFFECT OF CHUKKU CHOORANAM

| S. No. | Name of Drug / Groups   | Dose / 100 gm body weight | Initial Temperature in centigrade | After Drug Administration |              |              | Remarks |   |
|--------|-------------------------|---------------------------|-----------------------------------|---------------------------|--------------|--------------|---------|---|
|        |                         |                           |                                   | 1 ½ hour                  | 3.0 hour     | 4 ½ hour     |         |   |
| 1.     | Control (Water)         | 1ml                       | 36.0<br>37.0                      | 36.0<br>37.0              | 36.0<br>38.0 | 37.0<br>39.0 | 38.0    | - |
| 2.     | Standard (Paracetamol)  | 20mg                      | 37.0<br>38.0                      | 37.0<br>37.0              | 36.5<br>36.5 | 35.0<br>35.0 | 34.5    | - |
| 3.     | <b>Chukku Chooranam</b> | 100mg                     | 38.0<br>38.0                      | 37.5<br>37.5              | 36.5<br>36.5 | 36.0<br>36.0 | 35.75   | - |

## INFERENCE

The test drug **Chukku Chooranam** has got **significant Anti Pyretic activity**.

## **ANTI – MICROBIAL ACTIVITY**

### **BY KIRBY BAUER METHOD**

#### **AIM:**

To determine the Antimicrobial activity of **“Chukku Chooranam”**

#### **COMPONENTS OF MEDIUM:**

|                    |   |             |
|--------------------|---|-------------|
| Beef Extract       | : | 300gms/lit  |
| Agar               | : | 17gms/lit   |
| Starch             | : | 1.5gm/lit   |
| Casein Hydroxylate | : | 17.5gms/lit |
| Distilled Water    | : | 1000ml      |
| PH                 | : | 7.6         |

#### **PROCEDURE:**

The method of antimicrobial activity study is Disc Diffusion Method.

The principle of antibiotic sensitivity test is simple. Antibiotic discs are prepared with known concentration of antibiotic (1gm/10ml of distilled water) are placed on agar plates that has been inoculated with the best organism. The antibiotic diffuses through the agar producing an antibiotic concentration, Gradient effectiveness of susceptibility is proportional to the diameter of the inhibitory zone around the disc organism which grows upto the edge of the disc are resistant.

The recommended medium in this method is Muller Hinton Agar, its pH should be between 7.2 – 7.4 and should be poured to uniform thickness of 4mm in the Petri Plate (25ml) for certain fastidious micro organism.

## Methodology:

Muller Hinton Agar plates are prepared and pseudomonas, vibrio cholerae, E.coli, Bacillus, Klebsiella, Micrococcus, Streptococcus is inoculated separately.

- ❖ The prepared discs of **Chukku Chooranam** are placed over the incubated plate using sterile forceps and incubated for 24 hours at 37celcius.

The plates after 24 hours incubation are observed for the zone of inhabitation.

## RESULT:

The diameter of zone of inhibition of **Chukku Chooranam** for **proteus** sensitive 8mm.

## RESULT TABLE

| S. No. | Test Drug               | Organisms (Culture)      | Susceptibility | Zone Size (mm) |
|--------|-------------------------|--------------------------|----------------|----------------|
| 1.     | <b>Chukku Chooranam</b> | Escherichia Coli         | Resistant      |                |
| 2.     |                         | Klebsiella               | Resistant      |                |
| 3.     |                         | Proteus                  | Sensitive      | 8mm            |
| 4.     |                         | Staphylococcus aureus    | Resistant      |                |
| 5.     |                         | Streptococcus pneumoniae | Resistant      |                |
| 6      |                         | Pseudomonas aeruginosa   | Resistant      |                |
| 7.     |                         | Candida albicans         | Resistant      |                |

## CLINICAL ASSESSMENT

Azhal keel vayu is a disease mainly affecting the major weight bearing points. Normally, there is a change in the foot at certain age group. It affects the knee joints which do a lot of functions like flexion, extension etc.

In order to assess the efficacy of the **Chukku chooranam** for **Azhal Keel Vayu**, a clinical trail was taken on 40 cases of different age in both sexes.

They were clinically diagnosed as Azhal keel vayu, according to the selection criteria and Siddha literatures. Among them 30 patients were treated in Out – patients and 10 patients were treated in In – patient PG Gunapadam department of the Govt. Siddha Medical College and Hospital Palayamkottai.

Immediately after the admission, full clinical data were recorded and diagnosis was done in the basis of siddha principles such as Envagai thervu, mukkutram, etc. The admitted patients had different signs and symptoms of varying severity.

The routine blood investigations were done in each case, radiological investigations were also carried out. Radiological investigations were mainly used to rule out the other causes and diseases.

The cases were screened as per the following criterias.

**Including Criteria:**

- ❖ Age group : - Above 40 years
- ❖ Pain in Major Joints – (knee joints)
- ❖ Swelling
- ❖ Morning stiffness
- ❖ Limitation of Movements
- ❖ Crepitation of the joints
- ❖ Aggravated pain during walking, sitting and squatting position
- ❖ Obese
- ❖ Restricted movements
- ❖ X – ray finding

Signs and symptoms vary in severity from patients to patient

**Excluding criteria:**

- ❖ Sudden onset of excruciating pain, marked swelling and redness of the big toe.
- ❖ Age group, younger age group below 30 years
- ❖ Raised level of uric acid.
- ❖ Involvement of smaller joints
- ❖ Migrating joint pain
- ❖ Montoux test positive
- ❖ RA factor +ve

- ❖ VDRL +ve (STD)
- ❖ Haemorrhagic effusion
- ❖ Osteoporosis
- ❖ Osteo sarcoma
- ❖ Traumatic cause
- ❖ Osteo myelitis
- ❖ Psoriatic Arthritis

**Diet and Advise:**

- ❖ Easily digestible food is advised
- ❖ To avoid tamarinds
- ❖ Advised to avoid those foods which increase the  
vayukuttram like banana, potato, dall, curd etc.
- ❖ Avoid cool substances
- ❖ Intake of hot water and foods
- ❖ To avoid prolonged standing and walking
- ❖ Avoidness of stress
- ❖ To avoid punjant, bitter tastes
- ❖ Obese individuals advised to reduce their body weight
- ❖ Advice to change their occupation
- ❖ Advised to do quadriceps exercise.

**Drug and Dosage:**

The test drug 'Chukku Chooranam' was given to the patients at a dose of 1 gm three times a day with hot water after meals for 10 – 40 days. The drug was well accepted by the patients.

**Observations:**

The results were assessed on the basis of symptomatic relief obtained by the patient and clinically by daily examination to the In patient department and subsequent visits in the out patient department.

Out of 40 cases 24 were males and remaining cases were females patients.

Almost all the patients were laboures and farmers of poor socio economic status.

The clinical improvements were recorded for every 7 days for the outpatients and daily for the in patients. The clinical investigations were done for the patient before and after treatment and the prognosis was noted.

No adverse effects were observed during the study.

**Result:**

Among the 40 cases, 28 cases showed good response, 9 cases showed fair response, and 3 cases showed poor response.

| S.No | Prognosis | No. of patients | Percentage (%) |
|------|-----------|-----------------|----------------|
| 1    | Good      | 28              | 70.0%          |
| 2    | Fair      | 9               | 22.5%          |
| 3    | Poor      | 3               | 7.5 %          |



## **BIO - STATISTICAL ANALYSIS**

The study subjects of both drugs were analysed in terms of their age and sex by calculating mean age and S.D. The effectiveness of the drug was confirmed by comparing the mean and S.D. of related variables of the Diagnosis. The response of the drug was described in terms of percentages. The above analysis and interpretation were undertaken with help of statistical percentage S P S S. [130] AT-5/ level significant [P=0.05]

### **Results and discussions:**

Drug; **Chukku Choornam**

Diagnosis; **Ahzal Keel Vayu**

### **Description of the respondent:**

The clinical trials were described according to their age and sex. These two variables are independent variables.

**Table-1. Classification of subjects according to their age and sex.**

| Sl.No | Age group    | Male   |       | Female |       | Total |       |
|-------|--------------|--------|-------|--------|-------|-------|-------|
|       |              | No     | %     | No     | %     | No    | %     |
| 1.    | 40-44        | 3      | 12.5  | 2      | 12.5  | 5     | 12.5  |
| 2.    | 45-49        | 3      | 12.5  | 2      | 12.5  | 5     | 12.5  |
| 3.    | 50-54        | 4      | 16.7  | 2      | 12.5  | 6     | 15.0  |
| 4.    | 55-59        | 3      | 12.5  | 2      | 12.5  | 5     | 12.5  |
| 5.    | 60-64        | 3      | 12.5  | 2      | 12.5  | 5     | 12.5  |
| 6.    | 65-69        | 7      | 29.2  | 4      | 25.0  | 11    | 27.5  |
| 7.    | 70-74        | 1      | 4.1   | 2      | 12.5  | 3     | 7.5   |
|       | Total        | 24     | 100.0 | 16     | 100.0 | 40    | 100.0 |
|       | Mean         | 56.5   |       | 57.4   |       | 56.9  |       |
|       | S.D          | 9.2    |       | 10.2   |       | 9.6   |       |
|       | ‘t’          | 0.29   |       |        |       |       |       |
|       | Significance | P>0.05 |       |        |       |       |       |

The above table-1. shows the age and sex wise comparison of the study subjects. The mean age of the male was  $56.5 \pm 9.2$  and the females was  $57.4 \pm 10.2$  years. The difference between the mean ages of both sexes was statistically not significant [ $t=0.29$  d-f=38 and  $P > 0.05$ ] That means in respect of age and sexes were same. The total subjects mean age was  $56.9 \pm 9.6$  years. The males (60%) were participating the clinical trails and the females were [40%] participated.

## **EFFECTIVENESS OF THE DRUG;**

The effectiveness of the drug was analysed by collecting and compiling the data regarding pain stiffness measurements tenderness swelling and time taken for 100 feet walk. The above in formalians were collected before and after the treatment was under taken.The analysis and interpreted results were placed in the below table.

**Table-2.Related variables before and after treatment of the diseases.**

| Sl. No. | Variables              | n  | Before |     | After  |     | Mean Difference | ‘t’    | Significances |
|---------|------------------------|----|--------|-----|--------|-----|-----------------|--------|---------------|
|         |                        |    | Mean   | S.D | Mean   | S.D |                 |        |               |
| 1.      | Pain rt                | 40 | 1.35   | 0.8 | 0.23   | 0.5 | 1.125           | 9.000  | P< 0.001      |
| 2.      | Pain lt                | 40 | 1.57   | 0.7 | 0.33   | 0.5 | 1.125           | 11.802 | P< 0.001      |
| 3.      | Stiffness rt           | 40 | 0.475  | 0.7 | 0.075  | 0.3 | 0.4             | 3.766  | P < 0.001     |
| 4.      | Stiffness lt           | 40 | 0.400  | 0.7 | 0.125  | 0.3 | 0.275           | 2.905  | P < 0.001     |
| 5.      | Measurement rt         | 40 | 35.45  | 3.3 | 34.35  | 3.1 | 1.1             | 8.27   | P < 0.001     |
| 6.      | Measurement lt         | 40 | 35.225 | 3.1 | 34.225 | 3.0 | 1.0             | 9.874  | P< 0.001      |
| 7.      | Tenderness rt          | 40 | 1.15   | 0.9 | 0.2    | 0.5 | 0.95            | 7.104  | P < 0.001     |
| 8.      | Tenderness lt          | 40 | 1.1    | 0.7 | 0.2    | 0.5 | 0.85            | 8.119  | P< 0.001      |
| 9.      | Swelling rt            | 40 | 0.85   | 0.9 | 0.125  | 0.4 | 0.725           | 5.414  | P < 0.001     |
| 10.     | Swelling lt            | 40 | 0.775  | 0.7 | 0.1    | 0.3 | 0.675           | 7.459  | P < 0.001     |
| 11.     | Time for 100 feet walk | 40 | 60.875 | 6.3 | 53.8   | 6.5 | 7.075           | 15.554 | P < 0.001     |

The above analysis and interpretations contain in the table-2 clearly explain the effectiveness of the drug in curing Azhal Keel Vayu. The pain in both legs were relived after decreasing each 1.125 both legs.The mean decrease of pain was statistically highly significant [Rt t=9.000,d-

f=39 and  $P < 0.001$  and left  $t = 11.802$ , d.f=39 and  $P < 0.001$ ]. The stiffness in the rt.leg decreased as 0.4 and the decrease was statistically highly significant [ $t = 3.766$  d.f=39 and  $P < 0.001$ ]. In the left leg also the stiffness was reduced after treatment was 0.275 and the reduction was statistically highly significant [ $t = 2.905$ , d.f=39,  $P < 0.001$ ]. The measurement after treatment was reduced in both legs as rt 1.1 and left 1.0. The mean reduction of measurements of both legs were statistically highly significant. [Right  $t = 8.27$ , d.f=39 and  $P < 0.001$  and left  $t = 9.874$  d.f=39 and  $P < 0.001$ ]. The tenderness of both legs were decreased as 0.95 and 0.85 regulatively after treatment. The above decreaments were also statistically significant [Right  $t = 7.104$ , d.f=39 and  $P < 0.001$ ] and left  $t = 8.119$ , d.f=39 and  $P < 0.001$ ]. The observed swelling in both legs before treatment were significantly reduced with a mean difference in the right and left legs were 0.725 and 0.675 respectively after treatment. The mean duration of time taken for walk 100 feet was considerably reduced from  $60.875 \pm 6.3$  to  $53.8 \pm 6.5$  before and after treatment respectively. The mean difference of the above was statistically highly significant [ $t = 15.554$ , d.f=39 and  $P < 0.001$ ]. The above reductions of the variables in both legs from before treatment to the after treatment were the efficacy of drug **Chukku Choornam** in curing **Azhal Keel Vayu** [both].

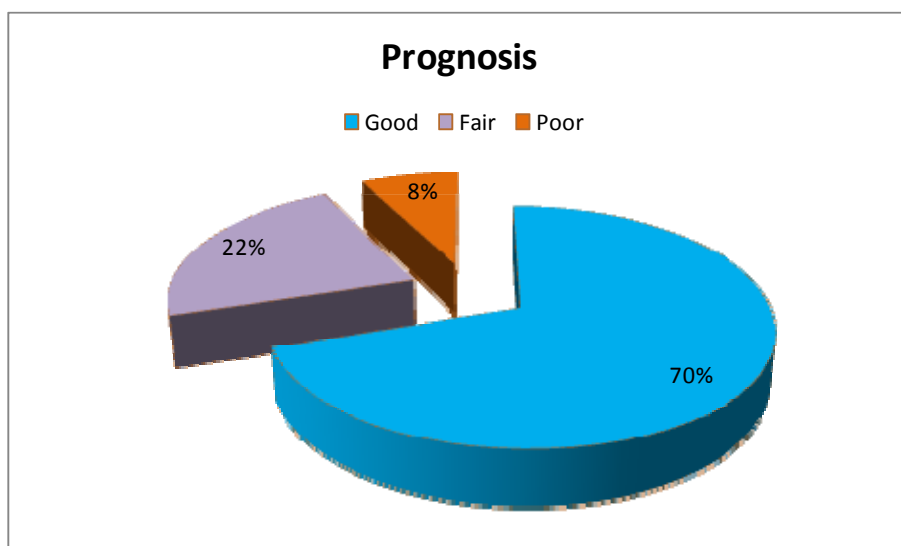
### RESPONSE OF THE DRUG:

The response of the drug was categorized as good, fair and poorly observing the curing effects. The results were postred in the below table.

**Table-3. Percentage destribution of the response of the patients.**

| Sl.No | Prognosis | Responses |      |
|-------|-----------|-----------|------|
|       |           | No        | %    |
| 1.    | Good      | 28        | 70.0 |
| 2.    | Fair      | 9         | 22.5 |
| 3.    | Poor      | 3         | 7.5  |
| Total |           | 40        | 100  |

From the above table -3. the good response was70%. The remaining fair and poor were 22.5% and 7.5% respectively. The good response of 70 % of the study subjects was considered as the effectiveness of the drug.



## DISCUSSION

The drug **Chukku Chooranam** was selected in this dissertation to study its therapeutic efficacy in the management of “**Azhal Keel Vayu**”.

According to siddha literatures the basic abnormality in Azhal Keel Vayu is the derangement of Vatha humor.

“எறியநல் வாத மெறிக்குங்குணங் கேளு

குறியெனக் கைகரல் குளச்சலிலரச் சந்து

பறியென நொந்து .....

-திருமூலர் நாடி, சித்த மருத்துவ

நோய்நாடல் நோய் முதனாடல் திரட்டு முதல்

பாகம் பக்கம் : 173

“மேவிய வாதஞ் செய்யும்

குணந்தனை விரும்பிக் கேளு

தரவிய வயிறு மந்தஞ்

சந்துகரல் பொருத்து நோவாம்

சேவிய தாது நரசஞ் .....

- இரத்தின சுருக்க நாடி.

- நோய்நாடல் நோய் முதனாடல்

முதல்பாகம். பக்கம் 174.

Thus the affected Vatha humour manifests symptoms like pain in all the joints like wrist joint, knee joint etc., general weakness of the joints and body and loss of appetite etc.

From the review of literatures it is inferred that the drug **CHUKKU CHOORANAM** selected for this study has the anit-vatha action is stated as follows.

“வாதப் பிணியை நூதற் செவிவாய்  
வலிதலை வலி குலை வலியிரு விழிநீர்  
.....”

-தேரையர் குணவாகடம்.

- குணபாடம் மூலிகை வகுப்பு பக்கம் 470.

All the patients were given **CHUKKU CHOORANAM** with luke warm water as a vehicle (Anupanam) for the drug;. Thus the luke warm water is one of the Anupanam told by Theraiyar and it improves the efficacy of the drug as stated below,

“அனுபானத்தாலே யவிழ்தம் பலிக்கும்  
இனிதான சுக்கு கன்னலிஞ்சி பினுமுதலுங்”  
.....

-தேரையர் யமஹ வெண்பா - 210.

காய்ந்தாறிய வெந்நீர் வாதாதிக்கத்தை போக்கும்.

- நோயில்லா நெறி பக்கம் : 162.

All these factors seem to neutralize the vitiated Vatha humour. This explanation is arrived on the basis of the analysis of the Gunapadam aspect of the drug which correlates with that of the following scientific analysis done on the drug.

Bio-Chemical analysis shows the presence of calcium, sulphate, choride, ferrous iron, phosphate, unsaturated compound and amino acid. Their presence of augments the therapeutic value of this drug by providing indispensable nutrition. Calcium is essential for growth, as it plays an important role in the formation of bones. Sulphates – by converting toxic substances into non toxic materials by means of conjugation. Iron combines with a protein and forms apoferritin which is converted into ferritin and is stored in this form largely.

Pharmacological analysis shows that the drug has got significant analgesic, anti inflammatory and antipyretic activity.

Microbiological analysis shows that the drug has got sensitivity to proteus.

In the clinical assessment of the 40 cases selected, 70% of cases showed good response, 22.5% of cases showed fair response and 7.5% of cases showed poor response.

Bio-Statistical analysis shows that the drug is effective in controlling **Azhal Keel Vayu**.

The improvement was proved by the alleviation of signs and symptoms present before the treatment.

During the clinical trail the patient showed no adverse reactions.



## SUMMARY

The drug **CHUKKU CHOORANAM** has been taken to establish its efficacy in treating “**Azhal Keel Vayu**”. The dose of Chukku Chooranam is 1gm twice a day with luke warm water after food.

A brief description pertaining to botanical aspect, phytochemistry and Gunapadam aspect has been done.

A review of literatures about the drug and its significance in medicine since ancient period has been done.

Collected information from various literatures and websites has been referred.

Bio-Chemical analysis shows the presence of calcium, sulphate, chloride, ferrous iron, phosphate, unsaturated compound and amino acid.

Pharmacological analysis shows that the drug has got significant analgesic, anti inflammatory and antipyretic activities.

Microbiological analysis shows that the drug has got sensitivity to Proteus.

Bio Statistical analysis also shows that the drug is effective in controlling Azhal keel Vayu.

From the clinical assessment it is inferred that **CHUKKU CHOORANAM** possess remarkable efficacy in treating **Azhal Keel Vayu** and the drug has got no adverse reactions.

## **CONCLUSION**

It is concluded that the drug **CHUKKU CHOORANAM** is an effective drug in relieving the symptoms is **Azhal Keel Vayu** and it has no adverse reactions.

## IN - PATIENTS

|  |  |  |                         |      |                 |      |   |  |   |   |  |  |
|--|--|--|-------------------------|------|-----------------|------|---|--|---|---|--|--|
| 1. Name: Sathyavani                                      |  |  | Age /Sex: 55/F          |      | I.P.No: 1587    |      | From: 19/06/08  |  | To: 29/07/08  |   | No. of Days Treated: 41                                  |  |
| DRUG: Chukku Chooranam                                   |  |  | Occupation : House Wife |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |   |   |  |  |
| Complaints and Duration :                                |  |  |                         |      |                 |      |   |  |   |   |  |  |
| Pain and swelling ⊕ in the both knee joint since 3 years |  |  | Before Treatment        |      | After Treatment |      | Investigation   |  |   |   |  |  |
|  |  |  |                         |      |                 |      | Before Treatment  |  |   | After Treatment                           |  |  |
|  |  |  | Right                   | Left | Right           | Left | Blood   | Radiological Findings  | Blood   | Radiological Findings                     |  |  |
| 1. Pain  |  |  | ++                      | +    | -               | -    | TC- 8100 cell/ cumm<br>DC: P – 60% L– 36% E -4%<br>ESR<br>½ hour - 5mm<br>1 hour - 10mm<br>Hb% - 74%<br>Bl. Sugar (R) – 99 mgs%<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 155 mgs% | Impression<br>Bilateral Osteo<br>arthritis                         | TC - 8400 cell/cumm<br>DC: P - 62% L -36% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 5mm<br>Hb% - 76%<br>Bl. Sugar (R) - 81 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 150 mgs% | Impression<br>Bilateral<br>Osteoarthritis |  |  |
| 2. Stiffness   |  |  | +                       | -    | -               | -    |   |  |   |   |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)        |  |  | II                      | II   | -               | -    |   |  |   |   |  |  |
| 4.Measurement  |  |  | 38cm                    | 37cm | 36cm            | 36cm |   |  |   |   |  |  |
| 5.Tenderness   |  |  | ++                      | +    | -               | -    |   |  |   |   |  |  |
| 6.Crepitation on movements                               |  |  | ++                      | ++   | -               | -    |   |  |   |   |  |  |
| 7.Swelling   |  |  | ++                      | +    | -               | -    |   |  |   |   |  |  |
| 8. Taking time to walk for 100 feet distance             |  |  | 63sec                   |      | 53sec           |      |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few epi cells | Response: Good  |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |

|   |  |                     |      |                 |      |  |  |   |   |                         |  |
|---|--|---------------------|------|-----------------|------|--|--|---|---|-------------------------|--|
| 2. Name: Karuppasamy                                    |  | Age /Sex: 67/M      |      | I.P.No: 1666    |      | From: 26/06/08   |  | To: 29/07/08  |   | No. of Days Treated: 34 |  |
| DRUG: Chukku Chooranam                                  |  | Occupation : Coolie |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)  |  |   |   |                         |  |
| Complaints and Duration :                               |  |                     |      |                 |      |  |  |   |   |                         |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  | Before Treatment    |      | After Treatment |      | Investigation  |  |   |   |                         |  |
|   |  |                     |      |                 |      | Before Treatment   |  |   | After Treatment   |                         |  |
|   |  | Right               | Left | Right           | Left | Blood  | Radiological Findings  | Blood   | Radiological Findings   |                         |  |
| 1. Pain   |  | +                   | ++   | -               | -    | TC- 8900 cell/ cumm<br>DC: P – 63% L– 33% E - 4%<br>ESR<br>½ hour - 7mm<br>1 hour - 14mm<br>Hb% - 74%<br>Bl. Sugar (R) – 90 mgs%<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 150 mgs% | 1. Soft tissue swelling<br>2. Narrowed joint space.<br><br>Impression<br>Bilateral Osteo arthritis | TC - 9000 cell/cumm<br>DC: P - 62% L -36% E - 2%<br>ESR:<br>½ hour - 3mm<br>1 hour - 7mm<br>Hb% - 78%<br>Bl. Sugar (R) - 84 mgs %<br>Bl. Urea - 80 mgs%<br>S.Cholesterol – 147 mgs% | 1. Reduce soft tissue swelling.<br>2. Narrowed joint space.<br>Impression<br>Bilateral Osteoarthritis |                         |  |
| 2. Stiffness  |  | -                   | -    | -               | -    |  |  |   |   |                         |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  | I                   | I    | -               | -    |  |  |   |   |                         |  |
| 4.Measurement   |  | 36cm                | 35cm | 35cm            | 34cm |  |  |   |   |                         |  |
| 5.Tenderness  |  | -                   | -    | -               | -    |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD   | Response: Good  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  |                         |  |
| 6.Crepitation on movements                              |  | +                   | +    | +               | -    |  |  |   |   |                         |  |
| 7.Swelling  |  | ++                  | +    | -               | -    |  |  |   |   |                         |  |
| 8. Taking time to walk for 100 feet distance            |  | 59sec               |      | 49sec           |      |  |  |   |   |                         |  |

+ - Mild

++ - Moderate

+++ - Severe

**Good Response**

**Fair Response**

**Poor Response**

- Significant relief of symptoms

- Partial relief of symptoms

- In Significant relief of symptoms

|  |  |                |                         |              |                 |                |  |  |   |  |  |
|--|--|----------------|-------------------------|--------------|-----------------|----------------|--|--|---|--|--|
| 3. Name: Thangammal  |  | Age /Sex: 50/F |                         | I.P.No: 2019 |                 | From: 04/08/08 |  | To: 13/09/08   |   | No. of Days Treated: 31  |  |
| DRUG: Chukku Chooranam                                       |  |                | Occupation : House Wife |              |                 |                | DIAGNOSIS: Azhal Keel Vayu (Both)  |  |   |  |  |
| Complaints and Duration :                                    |  |                |                         |              |                 |                |  |  |   |  |  |
| Pain and tenderness ⊕ in the both knee joint since 6 months. |  |                | Before Treatment        |              | After Treatment |                | Investigation  |  |   |  |  |
|  |  |                |                         |              |                 |                | Before Treatment   |  |   | After Treatment  |  |
|  |  |                | Right                   | Left         | Right           | Left           | Blood  | Radiological Findings  | Blood   | Radiological Findings  |  |
| 1. Pain  |  |                | ++                      | ++           | -               | -              | TC- 9200 cell/ cumm<br>DC: P – 58% L– 38% E - 4%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 68%<br>Bl. Sugar (R) – 71 mgs%<br>Bl. Urea - 15 mgs%<br>S.Cholesterol – 159 mgs% | 1. Narrowed Joint space.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9200 cell/cumm<br>DC: P - 58% L -39% E - 3%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 70%<br>Bl. Sugar (R) - 80 mgs %<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 156 mgs% | 1. Narrowed Joint space.<br><br>Impression<br>Bilateral Osteoarthritis |  |
| 2. Stiffness   |  |                | +                       | +            | -               | -              |  |  |   |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)            |  |                | II                      | II           | -               | -              |  |  |   |  |  |
| 4.Measurement  |  |                | 34cm                    | 33cm         | 32cm            | 32cm           |  |  |   |  |  |
| 5.Tenderness   |  |                | ++                      | ++           | -               | -              |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : 1-2 pus cells         | Response: Good  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD               |  |
| 6.Crepitation on movements                                   |  |                | ++                      | ++           | -               | -              |  |  |   |  |  |
| 7.Swelling   |  |                | -                       | -            | -               | -              |  |  |   |  |  |
| 8. Taking time to walk for 100 feet distance                 |  |                | 65sec                   |              | 55sec           |                |  |  |   |  |  |

|   |  |                |                     |             |                 |                |   |  |  |                         |   |  |
|---|--|----------------|---------------------|-------------|-----------------|----------------|---|--|--|-------------------------|---|--|
| 4. Name: Ganeshan   |  | Age /Sex: 55/M |                     | LP.No: 2235 |                 | From: 04/08/08 |   | To: 13/09/08   |  | No. of Days Treated: 40 |   |  |
| DRUG: Chukku Chooranam                                      |  |                | Occupation : Coolie |             |                 |                | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |  |                         |   |  |
| Complaints and Duration :                                   |  |                |                     |             |                 |                |   |  |  |                         |   |  |
| Pain and tenderness ⊕ in the both knee joint since 1 month. |  |                | Before Treatment    |             | After Treatment |                | Investigation   |  |  |                         |   |  |
|   |  |                |                     |             |                 |                | Before Treatment  |  |  | After Treatment         |   |  |
|   |  |                | Right               | Left        | Right           | Left           | Blood   | Radiological Findings                                    | Blood  | Radiological Findings   |   |  |
| 1. Pain   |  |                | ++                  | ++          | +               | +              | TC- 8900 cell/ cumm<br>DC: P – 76% L– 19% E - 5%<br>ESR<br>½ hour - 6mm<br>1 hour - 10mm<br>Hb% - 74%<br>Bl. Sugar (R) – 108 mgs%<br>Bl. Urea - 23 mgs%<br>S.Cholesterol – 150 mgs% | Impression<br>Bilateral Osteo<br>arthritis               | TC - 8800 cell/cumm<br>DC: P - 74% L -23% E - 3%<br>ESR: |                         | Impression<br>Bilateral<br>Osteoarthritis |  |
| 2. Stiffness  |  |                | +                   | +           | +               | +              |   |  | ½ hour - 3mm<br>1 hour - 5mm<br>Hb% - 76%                |                         |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)           |  |                | II                  | II          | II              | II             |   |  | Bl. Sugar (R) - 89 mgs %<br>Bl. Urea - 18 mgs%           |                         |   |  |
| 4.Measurement   |  |                | 38cm                | 36cm        | 36cm            | 36cm           |   |  | S.Cholesterol – 143 mgs%                                 |                         |   |  |
| 5.Tenderness  |  |                | ++                  | +           | ++              | +              |   |  |  |                         |   |  |
| 6.Crepitation on movements                                  |  |                | ++                  | ++          | ++              | ++             |   |  |  |                         |   |  |
| 7.Swelling  |  |                | -                   | -           | -               | -              |   |  |  |                         |   |  |
| 8. Taking time to walk for 100 feet distance                |  |                | 59sec               |             | 56sec           |                |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  | Response: Poor          |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|   |  |                |                     |             |                 |                |  |  |  |  |  |
|---|--|----------------|---------------------|-------------|-----------------|----------------|--|--|--|--|--|
| 5. Name: Kaliyammal                                       |  | Age /Sex: 53/F |                     | LP.No: 2216 |                 | From: 22/08/08 |  | To: 20/09/08                               |  | No. of Days Treated: 30                                  |  |
| DRUG: Chukku Chooranam                                    |  |                | Occupation : Coolie |             |                 |                | DIAGNOSIS: Azhal Keel Vayu (Both)  |  |  |  |  |
| Complaints and Duration :                                 |  |                |                     |             |                 |                |  |  |  |  |  |
| Pain and tenderness ⊕ in the both knee joint since 1 year |  |                | Before Treatment    |             | After Treatment |                | Investigation  |  |  |  |  |
|   |  |                |                     |             |                 |                | Before Treatment   |  | After Treatment  |  |  |
|   |  |                | Right               | Left        | Right           | Left           | Blood  | Radiological Findings                      | Blood  | Radiological Findings                                    |  |
| 1. Pain   |  |                | ++                  | ++          | -               | -              | TC- 10000 cell/ cumm<br>DC: P – 73% L– 22% E - 5%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 70%<br>Bl. Sugar (R) – 108 mgs%<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 153 mgs% | Impression<br>Bilateral Osteo<br>arthritis | TC - 10000 cell/cumm<br>DC: P - 72% L -26% E - 2%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 72%<br>Bl. Sugar (R) - 94 mgs %<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 154 mgs% | Impression<br>Bilateral<br>Osteoarthritis                |  |
| 2. Stiffness  |  |                | ++                  | +           | -               | -              |  |  |  |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)         |  |                | II                  | II          | -               | -              |  |  |  |  |  |
| 4.Measurement   |  |                | 38cm                | 39cm        | 36cm            | 38cm           |  |  |  |  |  |
| 5.Tenderness  |  |                | ++                  | +           | -               | -              | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few epi cells   |  | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |
| 6.Crepitation on movements                                |  |                | ++                  | +           | -               | -              |  |  |  |  |  |
| 7.Swelling  |  |                | -                   | -           | -               | -              |  |  |  |  |  |
| 8. Taking time to walk for 100 feet distance              |  |                | 60sec               |             | 50sec           |                |  |  |  |  |  |

|   |  |               |                     |              |                 |                                   |  |   |   |  |  |
|---|--|---------------|---------------------|--------------|-----------------|-----------------------------------|--|---|---|--|--|
| 6. Name: Lakshmi  |  | Age/Sex: 70/F |                     | I.P.No: 2400 |                 | From: 10/08/08                    |  | To: 13/10/08  |   | No. of Days Treated: 34  |  |
| DRUG: Chukku Chooranam                                    |  |               | Occupation : Coolie |              |                 | DIAGNOSIS: Azhal Keel Vayu (Both) |  |   |   |  |  |
| Complaints and Duration :                                 |  |               |                     |              |                 |                                   |  |   |   |  |  |
| Pain and swelling ⊕ in the both knee joint since 6 months |  |               | Before Treatment    |              | After Treatment |                                   | Investigation  |   |   |  |  |
|   |  |               |                     |              |                 |                                   | Before Treatment   |   |   | After Treatment  |  |
|   |  |               | Right               | Left         | Right           | Left                              | Blood  | Radiological Findings   | Blood   | Radiological Findings  |  |
| 1. Pain   |  |               | ++                  | +            | +               | -                                 | TC- 10000 cell/ cumm<br>DC: P – 68% L– 27% E - 5%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 70%<br>Bl. Sugar (R) – 110 mgs%<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 150 mgs% | 1. Subchondral sclerosis.<br>2. Narrowed joint space.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 10000 cell/cumm<br>DC: P - 70% L -28% E - 2%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 72%<br>Bl. Sugar (R) - 120 mgs %<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 142 mgs% | 1. Subchondral sclerosis.<br>2. Narrowed joint space.<br><br>Impression<br>Bilateral<br>Osteoarthritis |  |
| 2. Stiffness  |  |               | +                   | +            | +               | +                                 |  |   |   |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)         |  |               | II                  | II           | I               | I                                 |  |   |   |  |  |
| 4.Measurement   |  |               | 39cm                | 38cm         | 38cm            | 37cm                              |  |   |   |  |  |
| 5.Tenderness  |  |               | ++                  | +            | +               | -                                 | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD   |   |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD   |  |
| 6.Crepitation on movements                                |  |               | ++                  | +            | +               | -                                 |  |   |   |  |  |
| 7.Swelling  |  |               | ++                  | +            | +               | -                                 |  |   |   |  |  |
| 8. Taking time to walk for 100 feet distance              |  |               | 60sec               |              | 55sec           |                                   |  |   |   |  |  |

+ - Mild

++ - Moderate

+++ - Severe

**Good Response**

**Fair Response**

**Poor Response**

- Significant relief of symptoms

- Partial relief of symptoms

- In Significant relief of symptoms

|   |  |                |                     |             |                 |                                   |  |  |  |   |  |
|---|--|----------------|---------------------|-------------|-----------------|-----------------------------------|--|--|--|---|--|
| 7. Name: Velammal   |  | Age /Sex: 64/F |                     | LP.No: 2445 |                 | From: 14/09/08                    |  | To: 15/10/08   |  | No. of Days Treated: 30   |  |
| DRUG: Chukku Chooranam                                      |  |                | Occupation : Coolie |             |                 | DIAGNOSIS: Azhal Keel Vayu (Left) |  |  |  |   |  |
| Complaints and Duration :                                   |  |                |                     |             |                 |                                   |  |  |  |   |  |
| Pain and swelling ⊕ in the left knee joint since 10 months. |  |                | Before Treatment    |             | After Treatment |                                   | Investigation  |  |  |   |  |
|   |  |                |                     |             |                 |                                   | Before Treatment   |  | After Treatment  |   |  |
|   |  |                | Right               | Left        | Right           | Left                              | Blood  | Radiological Findings  | Blood  | Radiological Findings   |  |
| 1. Pain   |  |                | ++                  | -           | +               | -                                 | TC- 8600 cell/ cumm<br>DC: P – 60% L– 38% E - 2%<br>ESR<br>½ hour - 5mm<br>1 hour - 10mm<br>Hb% - 74%<br>Bl. Sugar (R) – 94 mgs%<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 180 mgs% | 1. Subchondral sclerosis.<br>2. Narrowed joint space.<br>Impression<br>Left knee Osteo arthritis | TC - 10000 cell/cumm<br>DC: P - 64% L -34% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 5mm<br>Hb% - 74%<br>Bl. Sugar (R) - 89 mgs %<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 168 mgs% | 1. Subchondral sclerosis.<br>2. Narrowed joint space.<br>Impression<br>Left knee Osteoarthritis |  |
| 2. Stiffness  |  |                | ++                  | -           | +               | -                                 |  |  |  |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)           |  |                | II                  | -           | I               | -                                 |  |  |  |   |  |
| 4.Measurement   |  |                | 33cm                | 32cm        | 32cm            | 32cm                              |  |  |  |   |  |
| 5.Tenderness  |  |                | ++                  | -           | +               | -                                 |  |  |  |   |  |
| 6.Crepitation on movements                                  |  |                | ++                  | -           | +               | -                                 |  |  |  |   |  |
| 7.Swelling  |  |                | ++                  | -           | +               | -                                 |  |  |  |   |  |
| 8. Taking time to walk for 100 feet distance                |  |                | 70sec               |             | 65sec           |                                   |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD   |  | Response: Fair  |  |

|   |  |                         |      |                 |      |   |  |  |                 |   |  |
|---|--|-------------------------|------|-----------------|------|---|--|--|-----------------|---|--|
| 8. Name: Annamariyal  |  | Age /Sex: 63/F          |      | LP.No: 2591     |      | From: 19/09/08  |  | To: 24/10/08   |                 | No. of Days Treated: 36                   |  |
| DRUG: Chukku Chooranam  |  | Occupation : House Wife |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |  |                 |   |  |
| Complaints and Duration :   |  |                         |      |                 |      |   |  |  |                 |   |  |
| Pain, tenderness and stiffness ⊕ in the both knee joint since 6 months. |  | Before Treatment        |      | After Treatment |      | Investigation   |  |  |                 |   |  |
|   |  |                         |      |                 |      | Before Treatment  |  |  | After Treatment |   |  |
|   |  | Right                   | Left | Right           | Left | Blood   |  | Radiological Findings  |                 | Blood                                     |  |
| 1. Pain   |  | ++                      | ++   | -               | -    | TC- 9800 cell/ cumm<br>DC: P – 70% L– 25% E - 5%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 70%<br>Bl. Sugar (R) – 110 mgs%<br>Bl. Urea - 28 mgs%<br>S.Cholesterol – 191 mgs% | Impression<br>Bilateral Osteo<br>arthritis                         | TC - 9900 cell/cumm<br>DC: P - 70% L -27% E - 3%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 72%<br>Bl. Sugar (R) - 108 mgs %<br>Bl. Urea - 22 mgs%<br>S.Cholesterol – 184 mgs% |                 | Impression<br>Bilateral<br>Osteoarthritis |  |
| 2. Stiffness  |  | ++                      | ++   | -               | -    |   |  |  |                 |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)                       |  | I                       | I    | -               | -    |   |  |  |                 |   |  |
| 4.Measurement   |  | 40cm                    | 39cm | 39cm            | 39cm |   |  |  |                 |   |  |
| 5.Tenderness  |  | ++                      | +    | -               | -    |   |  |  |                 |   |  |
| 6.Crepitation on movements  |  | ++                      | +    | -               | -    |   |  |  |                 |   |  |
| 7.Swelling  |  | -                       | -    | -               | -    |   |  |  |                 |   |  |
| 8. Taking time to walk for 100 feet distance                            |  | 60sec                   |      | 53sec           |      |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few epi cells |  | Response: Good  |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|  |  |                     |  |                  |      |                                   |      |  |   |  |                       |  |
|--|--|---------------------|--|------------------|------|-----------------------------------|------|--|---|--|-----------------------|--|
| 9. Name: Mupidathi                                       |  | Age /Sex: 54/M      |  | I.P.No: 2657     |      | From: 28/09/08                    |      | To: 30/10/08   |   | No. of Days Treated: 34                                  |                       |  |
| DRUG: Chukku Chooranam                                   |  | Occupation : Coolie |  |                  |      | DIAGNOSIS: Azhal Keel Vayu (Both) |      |  |   |  |                       |  |
| Complaints and Duration :                                |  |                     |  |                  |      |                                   |      |  |   |  |                       |  |
| Pain and tenderness ⊕ in the both knee joint since 1year |  |                     |  | Before Treatment |      | After Treatment                   |      | Investigation  |   |  |                       |  |
|  |  |                     |  |                  |      |                                   |      | Before Treatment   |   | After Treatment  |                       |  |
|  |  |                     |  | Right            | Left | Right                             | Left | Blood  | Radiological Findings   | Blood  | Radiological Findings |  |
| 1. Pain  |  |                     |  | ++               | +    | -                                 | -    | TC- 9200 cell/ cumm<br>DC: P – 66% L– 30% E - 4%<br>ESR<br>½ hour - 6mm<br>1 hour - 13mm<br>Hb% - 80%<br>Bl. Sugar (R) –111 mgs%<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 146 mgs% | 1. Narrowed joint space<br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9400 cell/cumm<br>DC: P - 70% L -28% E - 2%<br>ESR: |                       | 1. Narrowed joint<br>space.<br>Impression<br>Bilateral<br>Osteoarthritis |
| 2. Stiffness   |  |                     |  | -                | -    | -                                 | -    |  |   | ½ hour - 3mm   |                       |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)        |  |                     |  | II               | II   | -                                 | -    |  |   | 1 hour - 6mm   |                       |  |
| 4.Measurement  |  |                     |  | 37cm             | 38cm | 37cm                              | 37cm |  |   | Hb% - 81%  |                       |  |
| 5.Tenderness   |  |                     |  | ++               | +    | -                                 | -    |  |   | Bl. Sugar (R) - 108 mgs %                                |                       |  |
| 6.Crepitation on movements                               |  |                     |  | ++               | +    | -                                 | -    |  |   | Bl. Urea - 16 mgs%                                       |                       |  |
| 7.Swelling   |  |                     |  | +                | ++   | -                                 | -    |  |   | S.Cholesterol – 148 mgs%                                 |                       |  |
| 8. Taking time to walk for 100 feet distance             |  |                     |  | 48sec            |      | 40sec                             |      |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : 1-2 pus cells    |  | Response: Good        |  |
|  |  |                     |  |                  |      |                                   |      |  |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |                       |  |

|   |  |                     |      |                 |      |  |  |  |                 |                           |  |  |  |
|---|--|---------------------|------|-----------------|------|--|--|--|-----------------|---------------------------|--|--|--|
| 10. Name: Ulagaiya                                      |  | Age /Sex: 47/M      |      | LP.No: 2678     |      | From: 26/09/08   |  | To: 25/10/08   |                 | No. of Days Treated: 30   |  |  |  |
| DRUG: Chukku Chooranam                                  |  | Occupation : Farmer |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)  |  |  |                 |                           |  |  |  |
| Complaints and Duration :                               |  |                     |      |                 |      |  |  |  |                 |                           |  |  |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  | Before Treatment    |      | After Treatment |      | Investigation  |  |  |                 |                           |  |  |  |
|   |  |                     |      |                 |      | Before Treatment   |  |  | After Treatment |                           |  |  |  |
|   |  | Right               | Left | Right           | Left | Blood  |  | Radiological Findings                                    |                 | Blood                     |  | Radiological Findings                                    |  |
| 1. Pain   |  | ++                  | +    | -               | -    | TC- 9600 cell/ cumm<br>DC: P – 52% L– 42% E - 6%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 70%<br>Bl. Sugar (R) – 71 mgs%<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 180 mgs% |  | Impression<br>Bilateral Osteo<br>arthritis               |                 | TC - 9000 cell/cumm       |  | Impression<br>Bilateral<br>Osteoarthritis                |  |
| 2. Stiffness  |  | +                   | -    | -               | -    |  |  |  |                 | DC: P - 53% L -44% E - 3% |  |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  | II                  | II   | -               | -    |  |  |  |                 | ESR:                      |  |  |  |
| 4.Measurement   |  | 40cm                | 39cm | 38cm            | 38cm |  |  |  |                 | ½ hour - 3mm              |  |  |  |
| 5.Tenderness  |  | ++                  | +    | -               | -    |  |  |  |                 | 1 hour - 6mm              |  |  |  |
| 6.Crepitation on movements                              |  | ++                  | ++   | -               | -    |  |  | Hb% - 72%  |                 |                           |  |  |  |
| 7.Swelling  |  | ++                  | +    | -               | -    |  |  | Bl. Sugar (R) - 84 mgs %                                 |                 |                           |  |  |  |
| 8. Taking time to walk for 100 feet distance            |  | 58sec               |      | 50sec           |      |  |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |                 | Bl. Urea - 18 mgs%        |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |
|   |  |                     |      |                 |      | S.Cholesterol – 178 mgs%   |  |  |                 |                           |  |  |  |
|   |  |                     |      |                 |      | Response: Good   |  |  |                 |                           |  |  |  |

+ - Mild

++ - Moderate

+++ - Severe

**Good Response**

**Fair Response**

**Poor Response**

- Significant relief of symptoms

- Partial relief of symptoms

- In Significant relief of symptoms

## IN PATIENT

| <b>Name:</b> Arupudhamani                              |         | <b>Age/Sex:</b> 65/F   |           | <b>From:</b> 10/10/08  |   | <b>To:</b> 12/11/08 |  | <b>No. of days treated:</b> 33 |  |
|--|---------|--|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> Coolie   |                     |  |                                |  |
| SI. No   | I.P. No | Complaints and Duration  | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |  |           | Before treatment   |   |                     |  |                                |  |
| 1  | 22881   | Epigastric pain<br>Flatulence<br>Nausea<br>Vomiting Indigestion since 25 days. | Gunmam    | <b>Blood:</b><br><br>TC – 8900 cells/cumm<br><b>DC – P</b> – 63% <b>L-</b> 34% <b>E-</b> 3%<br><b>ESR:</b> ½ hr - 4mm <b>1 hr</b> - 8mm<br><b>Hb%</b> - 80%<br><b>Sugar (R)</b> - 118mgs%<br><b>Urea</b> - 26mgs%<br><b>Cholesterol</b> - 198mgs%<br><b>Urine:</b><br><b>Albumin</b> - Nil<br><b>Sugar</b> - Nil<br><b>Deposit</b> - NAD | 1. Epigastric pain relieved on 10 <sup>th</sup> day.<br><br>2. Nausea and vomiting relieved on 3 <sup>rd</sup> day.<br><br>3. Flatulence relieved on 7 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms



| <b>Name:</b> Sagayarani                                |         | <b>Age/Sex:</b> 42/F  |           | <b>From:</b> 12/10/08  |   | <b>To:</b> 10/11/08 |  | <b>No. of days treated:</b> 30 |  |
|--|---------|---|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |  | <b>Occupation:</b> House Wife   |                     |  |                                |  |
| SI. No   | I.P. No | Complaints and Duration                                     | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |   |           | Before treatment   |   |                     |  |                                |  |
| 2  | 2840    | Epigastric pain<br>Indigestion<br>Flatulence since 20 days. | Gunmam    | <b>Blood:</b><br><br>TC – 9100 cells/cumm<br><b>DC – P</b> – 65% <b>L-</b> 32% <b>E-</b> 3%<br><b>ESR:</b> ½ hr - 3mm <b>1 hr</b> - 6mm<br><b>Hb%</b> - 74%<br><b>Sugar (R)</b> - 107mgs%<br><b>Urea</b> - 28mgs%<br><b>Cholesterol</b> - 174mgs%<br><b>Urine:</b><br><b>Albumin</b> - Nil<br><b>Sugar</b> - Nil<br><b>Deposit</b> - 1-2 pus cells | 1. Indigestion relieved on 5 <sup>th</sup> day.<br><br>2. Flatulence relieved on 7 <sup>th</sup> day.<br><br>3. Epigastric pain not relieved. | Fair                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Anand                                     |         | <b>Age/Sex:</b> 25/M   |           | <b>From:</b> 15/10/08   |   | <b>To:</b> 20/11/08 |  | <b>No. of days treated:</b> 37 |  |
|--|---------|--|-----------|---|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |   | <b>Occupation:</b> Coolie   |                     |  |                                |  |
| SI. No   | I.P. No | Complaints and Duration  | Diagnosis | Lab investigations  | Observation   | Response            |  |                                |  |
|  |         |  |           | Before treatment  |   |                     |  |                                |  |
| 3  | 2838    | Epigastric pain<br>Flatulence<br>Anorexia<br>Nausea since 1 month. | Gunmam    | <b>Blood:</b><br><b>TC</b> – 9700 cells/cumm<br><b>DC – P</b> – 59% <b>L-</b> 37% <b>E-</b> 4%<br><b>ESR:</b> ½ <b>hr</b> - 5mm <b>1 hr</b> - 10mm<br><b>Hb%</b> - 76%<br><b>Sugar (R)</b> - 116mgs%<br><b>Urea</b> - 26mgs%<br><b>Cholesterol</b> - 182mgs%<br><b>Urine:</b><br><b>Albumin</b> - Nil<br><b>Sugar</b> - Nil<br><b>Deposit</b> - NAD | 1. Epigastric pain relieved on 10 <sup>th</sup> day.<br>2. Flatulence relieved on 5 <sup>th</sup> day.<br>3. Anorexia and Nausea relieved on 6 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Shanmugam                                 |         | <b>Age/Sex:</b> 45/M                                 |           | <b>From:</b> 15/10/08   |   | <b>To:</b> 18/11/08 |  | <b>No. of days treated:</b> 35 |  |
|--|---------|--|-----------|---|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |   | <b>Occupation:</b> Coolie   |                     |  |                                |  |
| SI. No   | I.P. No | Complaints and Duration                              | Diagnosis | Lab investigations  | Observation   | Response            |  |                                |  |
|  |         |  |           | Before treatment  |   |                     |  |                                |  |
| 4  | 2867    | Epigastric pain<br>Nausea<br>Vomiting since 25 days. | Gunmam    | <b>Blood:</b><br><br>TC – 10000 cells/cumm<br><b>DC – P</b> – 60% <b>L-</b> 38% <b>E-</b> 2%<br><b>ESR:</b> ½ hr - 2mm <b>1 hr</b> - 4mm<br><b>Hb%</b> - 70%<br><b>Sugar (R)</b> - 106mgs%<br><b>Urea</b> - 29mgs%<br><b>Cholesterol</b> - 199mgs%<br><b>Urine:</b><br><b>Albumin</b> - Nil<br><b>Sugar</b> - Nil<br><b>Deposit</b> - NAD | 1. Epigastric pain relieved on 10 <sup>th</sup> day.<br><br>2. Nausea and vomiting relieved on 5 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Sankarayya                                |         | <b>Age/Sex:</b> 60/M                                   |           | <b>From:</b> 18/10/08  |   | <b>To:</b> 24/11/08 |  | <b>No. of days treated:</b> 38 |  |
|--|---------|--|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> Farmer   |                     |  |                                |  |
| SI. No   | I.P. No | Complaints and Duration                                | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |  |           | Before treatment   |   |                     |  |                                |  |
| 5  | 2881    | Epigastric pain<br>Flatulence<br>Nausea since 1 month. | Gunmam    | <b>Blood:</b><br><br>TC – 8500 cells/cumm<br><b>DC – P</b> – 60% <b>L-</b> 36% <b>E-</b> 4%<br><b>ESR:</b> ½ hr - 3mm <b>1 hr</b> - 7mm<br><b>Hb%</b> - 72%<br><b>Sugar (R)</b> - 100mgs%<br><b>Urea</b> - 26mgs%<br><b>Cholesterol</b> - 189mgs%<br><b>Urine:</b><br><b>Albumin</b> - Nil<br><b>Sugar</b> - Nil<br><b>Deposit</b> - NAD | 1. Epigastric pain relieved on 8 <sup>th</sup> day.<br><br>2. Flatulence relieved on 3 <sup>rd</sup> day.<br><br>3. Nausea relieved on 5 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

## OUT- PATIENTS

|   |  |                            |                         |                      |                        |  |  |                     |   |  |  |  |
|---|--|----------------------------|-------------------------|----------------------|------------------------|--|--|---------------------|---|--|--|--|
| <b>1. Name:</b> Aavudaiyammal                           |  | <b>Age /Sex:</b> 66/F      |                         | <b>O.P.No:</b> 36422 |                        | <b>From:</b> 11/06/08                    |  | <b>To:</b> 24/07/08 |   | <b>No. of Days Treated:</b> 44   |  |  |
| <b>DRUG:</b> Chukku Chooranam                           |  | <b>Occupation :</b> Coolie |                         |                      |                        | <b>DIAGNOSIS:</b> Azhal Keel Vayu (Both) |  |                     |   |  |  |  |
| <b>Complaints and Duration :</b>                        |  |                            |                         |                      |                        |  |  |                     |   |  |  |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  |                            | <b>Before Treatment</b> |                      | <b>After Treatment</b> |  | <b>Investigation</b>   |                     |   |  |  |  |
|   |  |                            |                         |                      |                        |  | <b>Before Treatment</b>  |                     |   | <b>After Treatment</b>   |  |  |
|   |  |                            | <b>Right</b>            | <b>Left</b>          | <b>Right</b>           | <b>Left</b>                              | <b>Blood</b>   |                     | <b>Radiological Findings</b>  | <b>Blood</b>   |  | <b>Radiological Findings</b>   |
| 1. Pain   |  |                            | +                       | ++                   | -                      | -  | TC- 9000 cell/ cumm  |                     | 1. Soft tissue swelling   | TC - 9000 cell/cumm<br>DC: P - 51% L -47% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 74%<br>Bl. Sugar (R) - 88mgs %<br>Bl. Urea - 15mgs%<br>S.Cholesterol - 182mgs% |  | 1. Reduce soft tissue swelling.<br>2. Narrowed joint space.<br>Impression<br>Bilateral Osteo arthritis |
| 2. Stiffness  |  |                            | -                       | -                    | -                      | -  | DC: P – 49% L– 48% E - 3%<br>ESR<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 71%<br>Bl. Sugar (R) - 107mgs%<br>Bl. Urea - 15mgs%<br>S.Cholesterol - 180mgs% |                     | 2. Narrowed joint space.  |  |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  |                            | I                       | I                    | -                      | -  | ½ hour - 3mm   |                     | Impression  |  |  |  |
| 4.Measurement   |  |                            | 36cm                    | 35cm                 | 35cm                   | 34cm                                     | 1 hour - 6mm   |                     | Bilateral Osteo   |  |  |  |
| 5.Tenderness  |  |                            | -                       | -                    | -                      | -  | Hb% - 71%  |                     | arthritis   |  |  |  |
| 6.Crepitation on movements                              |  |                            | ++                      | +                    | +                      | -  | Bl. Sugar (R) - 107mgs%  |                     |   |  |  |  |
| 7.Swelling  |  |                            | ++                      | +                    | +                      | -  | Bl. Urea - 15mgs%  |                     |   |  |  |  |
| 8. Taking time to walk for 100 feet distance            |  |                            | 60sec                   |                      | 50sec                  |  |  |                     | <b>URINE :</b><br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few epi cells | <b>Response:</b> Good  |  | <b>URINE :</b><br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  |

|  |  |                |                     |               |                 |                                   |  |  |  |  |  |
|--|--|----------------|---------------------|---------------|-----------------|-----------------------------------|--|--|--|--|--|
| 2. Name: Shaul amidu                                       |  | Age /Sex: 62/M |                     | O.P.No: 36320 |                 | From: 11/06/08                    |  | To: 26/07/08   |  | No. of Days Treated: 46  |  |
| DRUG: Chukku Chooranam                                     |  |                | Occupation : Coolie |               |                 | DIAGNOSIS: Azhal Keel Vayu (Left) |  |  |  |  |  |
| Complaints and Duration :                                  |  |                |                     |               |                 |                                   |  |  |  |  |  |
| Pain and swelling ⊕ in the left knee joint since 2 months. |  |                | Before Treatment    |               | After Treatment |                                   | Investigation  |  |  |  |  |
|  |  |                |                     |               |                 |                                   | Before Treatment   |  |  | After Treatment  |  |
|  |  |                | Right               | Left          | Right           | Left                              | Blood  | Radiological Findings  | Blood  | Radiological Findings  |  |
| 1. Pain  |  |                | -                   | ++            | -               | +                                 | TC- 9200 cell/ cumm<br>DC: P – 62% L– 35% E – 3%<br>ESR<br>½ hour - 3mm<br>1 hour - 7mm<br>Hb% - 81%<br>Bl. Sugar (R) – 118 mgs%<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 175 mgs% | 1. Reduced joint space.<br><br>Impression<br>Left knee Osteo arthritis | TC - 9100 cell/cumm<br>DC: P - 62% L -36% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 80%<br>Bl. Sugar (R) - 108 mgs %<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 170 mgs% | 1. Reduced joint space.<br><br>Impression<br>Left knee Osteo arthritis |  |
| 2. Stiffness   |  |                | -                   | -             | -               | -                                 |  |  |  |  |  |
| 3. Limitation of movements ( 30°, 30 - 60° , >60°)         |  |                | -                   | I             | -               | -                                 |  |  |  |  |  |
| 4.Measurement  |  |                | 38cm                | 36cm          | 37cm            | 35cm                              |  |  |  |  |  |
| 5.Tenderness   |  |                | -                   | +             | -               | -                                 |  |  |  |  |  |
| 6.Crepitation on movements                                 |  |                | -                   | -             | -               | -                                 |  |  |  |  |  |
| 7.Swelling   |  |                | -                   | +             | -               | -                                 |  |  |  |  |  |
| 8. Taking time to walk for 100 feet distance               |  |                | 60sec               |               | 50sec           |                                   |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : 1-2 pus cells     | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD               |  |

+ - Mild

++ - Moderate

+++ - Severe

**Good Response**

**Fair Response**

**Poor Response**

- Significant relief of symptoms

- Partial relief of symptoms

- In Significant relief of symptoms

|   |  |                     |      |                 |      |   |  |   |                 |  |  |  |  |
|---|--|---------------------|------|-----------------|------|---|--|---|-----------------|--|--|--|--|
| 3. Name: Arumugaganthi                                    |  | Age /Sex: 60/M      |      | O.P.No: 36559   |      | From: 12/06/08  |  | To: 24/07/08  |                 | No. of Days Treated: 43  |  |  |  |
| DRUG: Chukku Chooranam                                    |  | Occupation : Coolie |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |   |                 |  |  |  |  |
| Complaints and Duration :                                 |  |                     |      |                 |      |   |  |   |                 |  |  |  |  |
| Pain and swelling ⊕ in the both knee joint since 6 months |  | Before Treatment    |      | After Treatment |      | Investigation   |  |   |                 |  |  |  |  |
|   |  |                     |      |                 |      | Before Treatment  |  |   | After Treatment |  |  |  |  |
|   |  | Right               | Left | Right           | Left | Blood   |  | Radiological Findings   |                 | Blood  |  | Radiological Findings  |  |
| 1. Pain   |  | ++                  | ++   | ++              | +    | TC- 9000 cell/ cumm<br>DC: P – 68% L– 29% E - 3%<br>ESR<br>½ hour - 4mm<br>1 hour - 8mm<br>Hb% - 78%<br>Bl. Sugar (R) – 84 mgs%<br>Bl. Urea - 32 mgs%<br>S.Cholesterol – 216 mgs% |  | 1. Subchondral sclerosis.<br>2. Marginal Osteophytes.<br><br>Impression<br>Bilateral Osteo<br>arthritis |                 | TC - 9100 cell/cumm<br>DC: P - 66% L -33% E - 3%<br>ESR:<br>½ hour - 21mm<br>1 hour - 4mm<br>Hb% - 78%<br>Bl. Sugar (R) - 88 mgs %<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 204 mgs% |  | 1. Subchondral sclerosis.<br>2. Marginal Osteophytes.<br><br>Impression<br>Bilateral steoarthritis |  |
| 2. Stiffness  |  | -                   | -    | -               | -    |   |  |   |                 |  |  |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)         |  | III                 | III  | III             | II   |   |  |   |                 |  |  |  |  |
| 4.Measurement   |  | 40cm                | 42cm | 40cm            | 41cm |   |  |   |                 |  |  |  |  |
| 5.Tenderness  |  | ++                  | ++   | ++              | +    |   |  |   |                 |  |  |  |  |
| 6.Crepitation on movements                                |  | +                   | +    | +               | +    |   |  |   |                 |  |  |  |  |
| 7.Swelling  |  | ++                  | ++   | ++              | +    |   |  |   |                 |  |  |  |  |
| 8. Taking time to walk for 100 feet distance              |  | 70sec               |      | 68sec           |      |   |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  |                 | Response: Poor   |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD   |  |

|  |  |                     |      |                 |      |   |   |  |   |  |  |
|--|--|---------------------|------|-----------------|------|---|---|--|---|--|--|
| 4. Name: Subbaiya  |  | Age /Sex: 70/M      |      | O.P.No: 36739   |      | From: 12/06/08  |   | To: 28/07/08   |   | No. of Days Treated: 47                                  |  |
| DRUG: Chukku Chooranam                                     |  | Occupation : Farmer |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Left)   |   |  |   |  |  |
| Complaints and Duration :                                  |  |                     |      |                 |      |   |   |  |   |  |  |
| Pain and tenderness ⊕ in the left knee joint since 4 years |  | Before Treatment    |      | After Treatment |      | Investigation   |   |  |   |  |  |
|  |  |                     |      |                 |      | Before Treatment  |   |  | After Treatment   |  |  |
|  |  | Right               | Left | Right           | Left | Blood   | Radiological Findings   | Blood  | Radiological Findings   |  |  |
| 1. Pain  |  | ++                  | -    | -               | -    | TC- 8200 cell/ cumm<br>DC: P – 50% L– 46% E - 4%<br>ESR<br>½ hour - 9mm<br>1 hour - 18mm<br>Hb% - 68%<br>Bl. Sugar (R) – 120 mgs%<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 210 mgs% | 1. Reduced joint space.<br><br>Impression<br>Left knee Osteoarthritis | TC - 8300 cell/cumm<br>DC: P - 52% L -46% E - 2%<br>ESR:<br>½ hour - 4mm<br>1 hour - 9mm<br>Hb% - 70%<br>Bl. Sugar (R) - 118 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 207 mgs% | 1. Reduced joint space.<br><br>Impression<br>Left knee Osteoarthritis |  |  |
| 2. Stiffness   |  | -                   | -    | -               | -    |   |   |  |   |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  | I                   | -    | -               | -    |   |   |  |   |  |  |
| 4.Measurement  |  | 36cm                | 34cm | 36cm            | 34cm |   |   |  |   |  |  |
| 5.Tenderness   |  | +                   | -    | -               | -    |   |   |  |   |  |  |
| 6.Crepitation on movements                                 |  | -                   | -    | -               | -    |   |   |  |   |  |  |
| 7.Swelling   |  | +                   | -    | -               | -    |   |   |  |   |  |  |
| 8. Taking time to walk for 100 feet distance               |  | 65sec               |      | 55sec           |      |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD              |  |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |
|  |  |                     |      |                 |      | Response: Good  |   |  |   |  |  |

+ - Mild

++ - Moderate

+++ - Severe

**Good Response**

**Fair Response**

**Poor Response**

- Significant relief of symptoms

- Partial relief of symptoms

- In Significant relief of symptoms

|   |  |               |                     |               |                 |                |  |              |  |   |  |  |
|---|--|---------------|---------------------|---------------|-----------------|----------------|--|--------------|--|---|--|--|
| 5.. Name: Abbas   |  | Age/Sex: 68/M |                     | O.P.No: 36808 |                 | From: 13/06/08 |  | To: 26/07/08 |  | No. of Days Treated: 44   |  |  |
| DRUG: Chukku Chooranam                                  |  |               | Occupation : Coolie |               |                 |                | DIAGNOSIS: Azhal Keel Vayu (Both)  |              |  |   |  |  |
| Complaints and Duration :                               |  |               |                     |               |                 |                |  |              |  |   |  |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  |               | Before Treatment    |               | After Treatment |                | Investigation  |              |  |   |  |  |
|   |  |               |                     |               |                 |                | Before Treatment   |              |  | After Treatment   |  |  |
|   |  |               | Right               | Left          | Right           | Left           | Blood  |              | Radiological Findings                                    | Blood   |  | Radiological Findings                                    |
| 1. Pain   |  |               | ++                  | +             | +               | -              | TC- 9200 cell/ cumm<br>DC: P – 60% L– 36% E - 4%<br>ESR<br>½ hour - 7mm<br>1 hour - 15mm<br>Hb% - 72%<br>Bl. Sugar (R) – 89 mgs%<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 200 mgs% |              | 1. Subchondral scelerosis.                               | TC - 9200 cell/cumm<br>DC: P - 62% L -36% E - 2%<br>ESR:<br>½ hour - 3mm<br>1 hour - 7mm<br>Hb% - 74%<br>Bl. Sugar (R) - 88 mgs %<br>Bl. Urea - 17 mgs%<br>S.Cholesterol – 195 mgs% |  | 1. Subchondral scelerosis.                               |
| 2. Stiffness  |  |               | ++                  | +             | -               | -              |  |              |  |   |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  |               | I                   | I             | -               | -              |  |              | Impression<br>Bilateral Osteo arthritis                  | Bl. Sugar (R) - 88 mgs %<br>Bl. Urea - 17 mgs%<br>S.Cholesterol – 195 mgs%  |  | Impression<br>Bilateral Osteoarthritis                   |
| 4.Measurement   |  |               | 34cm                | 36cm          | 32cm            | 34cm           |  |              |  |   |  |  |
| 5.Tenderness  |  |               | +                   | +             | -               | -              |  |              | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD | Response: Good  |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |
| 6.Crepitation on movements                              |  |               | +                   | +             | -               | -              |  |              |  |   |  |  |
| 7.Swelling  |  |               | +                   | ++            | -               | +              |  |              |  |   |  |  |
| 8. Taking time to walk for 100 feet distance            |  |               | 62sec               |               | 53sec           |                |  |              |  |   |  |  |

|  |  |  |                         |      |                 |      |   |  |   |  |                         |  |
|--|--|--|-------------------------|------|-----------------|------|---|--|---|--|-------------------------|--|
| 6. Name: Komathi   |  |  | Age /Sex: 67/F          |      | O.P.No: 36887   |      | From: 13/06/08  |  | To: 26/07/08  |  | No. of Days Treated: 44 |  |
| DRUG: Chukku Chooranam                                     |  |  | Occupation : House Wife |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Left)   |  |   |  |                         |  |
| Complaints and Duration :                                  |  |  |                         |      |                 |      |   |  |   |  |                         |  |
| Pain and swelling ⊕ in the left knee joint since 4 months. |  |  | Before Treatment        |      | After Treatment |      | Investigation   |  |   |  |                         |  |
|  |  |  |                         |      |                 |      | Before Treatment  |  |   | After Treatment  |                         |  |
|  |  |  | Right                   | Left | Right           | Left | Blood   | Radiological Findings  | Blood   |  | Radiological Findings   |  |
| 1. Pain  |  |  | -                       | ++   | -               | +    | TC- 9000 cell/ cumm<br>DC: P – 58% L– 40% E - 2%<br>ESR<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 65%<br>Bl. Sugar (R) – 78 mgs%<br>Bl. Urea - 21 mgs%<br>S.Cholesterol – 161 mgs% | 1. Reduced joint space.<br><br>Impression<br>Left Osteoarthritis | TC - 9100 cell/cumm<br>DC: P - 56% L -42% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 70%<br>Bl. Sugar (R) - 80 mgs %<br>Bl. Urea - 21 mgs%<br>S.Cholesterol – 160 mgs% | 1. Reduced joint space.<br><br>Impression<br>Left Osteoarthritis |                         |  |
| 2. Stiffness   |  |  | -                       | -    | -               | -    |   |  |   |  |                         |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  |  | -                       | I    | -               | -    |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD         | Response: Good  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD         |                         |  |
| 4.Measurement  |  |  | 36cm                    | 34cm | 35cm            | 32cm |   |  |   |  |                         |  |
| 5.Tenderness   |  |  | -                       | +    | -               | -    |   |  |   |  |                         |  |
| 6.Crepitation on movements                                 |  |  | -                       | -    | -               | -    |   |  |   |  |                         |  |
| 7.Swelling   |  |  | -                       | +    | -               | -    |   |  |   |  |                         |  |
| 8. Taking time to walk for 100 feet distance               |  |  | 60sec                   |      | 50sec           |      |   |  |   |  |                         |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|   |  |                      |      |                 |      |   |   |   |  |                         |  |
|---|--|----------------------|------|-----------------|------|---|---|---|--|-------------------------|--|
| 7. Name: Ganeshan                                       |  | Age /Sex: 48/M       |      | O.P.No: 37057   |      | From: 14/07/08  |   | To: 29/08/08  |  | No. of Days Treated: 47 |  |
| DRUG: Chukku Chooranam                                  |  | Occupation : Teacher |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |   |   |  |                         |  |
| Complaints and Duration :                               |  |                      |      |                 |      |   |   |   |  |                         |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  | Before Treatment     |      | After Treatment |      | Investigation   |   |   |  |                         |  |
|   |  |                      |      |                 |      | Before Treatment  |   |   | After Treatment  |                         |  |
|   |  | Right                | Left | Right           | Left | Blood   | Radiological Findings   | Blood   | Radiological Findings  |                         |  |
| 1. Pain   |  | +                    | ++   | -               | +    | TC- 9000 cell/ cumm<br>DC: P – 52% L– 45% E - 3%<br>ESR<br>½ hour - 4mm<br>1 hour - 8mm<br>Hb% - 80%<br>Bl. Sugar (R) – 68 mgs%<br>Bl. Urea - 22 mgs%<br>S.Cholesterol – 172 mgs% | 1. Soft tissue swelling<br>2. Subchondral sclerosis.<br>Impression<br>Bilateral Osteo arthritis | TC - 9000 cell/cumm<br>DC: P - 55% L -43% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 80%<br>Bl. Sugar (R) - 80 mgs %<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 172 mgs% | 1. Soft tissue swelling<br>2. Subchondral sclerosis.<br>Impression<br>Bilateral Osteoarthritis |                         |  |
| 2. Stiffness  |  | -                    | -    | -               | -    |   |   |   |  |                         |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  | I                    | II   | -               | I    |   |   |   |  |                         |  |
| 4.Measurement   |  | 38cm                 | 40cm | 36cm            | 38cm |   |   |   |  |                         |  |
| 5.Tenderness  |  | +                    | ++   | -               | +    |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  | Response: Fair  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                                       |                         |  |
| 6.Crepitation on movements                              |  | +                    | +    | -               | -    |   |   |   |  |                         |  |
| 7.Swelling  |  | +                    | ++   | -               | +    |   |   |   |  |                         |  |
| 8. Taking time to walk for 100 feet distance            |  | 70sec                |      | 64sec           |      |   |   |   |  |                         |  |

|   |  |  |                |  |                         |      |                 |      |  |                                   |                |  |  |  |                 |  |  |  |   |  |  |  |
|---|--|--|----------------|--|-------------------------|------|-----------------|------|--|-----------------------------------|----------------|--|--|--|-----------------|--|--|--|---|--|--|--|
| 8. Name: Gomathiyammal                                      |  |  | Age /Sex: 67/F |  |                         |      | O.P.No: 37257   |      |  |                                   | From: 16/07/08 |  |  |  | To: 29/09/08    |  |  |  | No. of Days Treated: 45   |  |  |  |
| DRUG: Chukku Chooranam                                      |  |  |                |  | Occupation : House Wife |      |                 |      |  | DIAGNOSIS: Azhal Keel Vayu (Both) |                |  |  |  |                 |  |  |  |   |  |  |  |
| Complaints and Duration :                                   |  |  |                |  |                         |      |                 |      |  |                                   |                |  |  |  |                 |  |  |  |   |  |  |  |
| Pain and stiffness ⊕ in the both knee joint since 6 months. |  |  |                |  | Before Treatment        |      | After Treatment |      | Investigation  |                                   |                |  |  |  |                 |  |  |  |   |  |  |  |
|   |  |  |                |  |                         |      |                 |      | Before Treatment   |                                   |                |  |  |  | After Treatment |  |  |  |   |  |  |  |
|   |  |  |                |  | Right                   | Left | Right           | Left | Blood  |                                   |                |  | Radiological Findings  |  |                 | Blood  |  |  | Radiological Findings   |  |  |  |
| 1. Pain   |  |  |                |  | +                       | ++   | +               | ++   | TC- 9800 cell/ cumm<br>DC: P – 58% L– 38% E - 4%<br>ESR<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 71%<br>Bl. Sugar (R) – 118 mgs%<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 160 mgs% |                                   |                |  | 1. Marginal Osteophytes.<br>2. Subchondral sclerosis.<br><br>Impression<br>Bilateral Osteo arthritis |  |                 | TC - 9800 cell/cumm<br>DC: P - 60% L -38% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 72%<br>Bl. Sugar (R) - 108 mgs %<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 165 mgs% |  |  | 1. Marginal Osteophytes.<br>2. Subchondral sclerosis.<br><br>Impression<br>Bilateral Osteoarthritis |  |  |  |
| 2. Stiffness  |  |  |                |  | -                       | -    | -               | -    |  |                                   |                |  |  |  |                 |  |  |  |   |  |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)           |  |  |                |  | I                       | I    | I               | I    |  |                                   |                |  |  |  |                 |  |  |  |   |  |  |  |
| 4.Measurement   |  |  |                |  | 33cm                    | 34cm | 32cm            | 33cm |  |                                   |                |  |  |  |                 |  |  |  |   |  |  |  |
| 5.Tenderness  |  |  |                |  | +                       | ++   | +               | ++   |  |                                   |                |  |  |  |                 |  |  |  |   |  |  |  |
| 6.Crepitation on movements                                  |  |  |                |  | ++                      | ++   | ++              | ++   |  |                                   |                |  |  |  |                 |  |  |  | Impression<br>Bilateral Osteoarthritis  |  |  |  |
| 7.Swelling  |  |  |                |  | -                       | -    | -               | -    |  |                                   |                |  |  |  |                 |  |  |  |   |  |  |  |
| 8. Taking time to walk for 100 feet distance                |  |  |                |  | 70sec                   |      | 67sec           |      |  |                                   |                |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD   |  |                 | Response: Poor   |  |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  |  |  |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms



|  |  |  |                     |      |                 |                                    |   |  |   |  |                         |  |
|--|--|--|---------------------|------|-----------------|------------------------------------|---|--|---|--|-------------------------|--|
| 9. Name: Velachari                                       |  |  | Age /Sex: 60/M      |      | O.P.No: 37541   |                                    | From: 17/06/08  |  | To: 27/07/08  |  | No. of Days Treated: 42 |  |
| DRUG: Chukku Chooranam                                   |  |  | Occupation : Coolie |      |                 | DIAGNOSIS: Azhal Keel Vayu (Right) |   |  |   |  |                         |  |
| Complaints and Duration :                                |  |  |                     |      |                 |                                    |   |  |   |  |                         |  |
| Pain and swelling ⊕ in the right knee joint since 1 year |  |  | Before Treatment    |      | After Treatment |                                    | Investigation   |  |   |  |                         |  |
|  |  |  |                     |      |                 |                                    | Before Treatment  |  |   | After Treatment  |                         |  |
|  |  |  | Right               | Left | Right           | Left                               | Blood   | Radiological Findings  | Blood   | Radiological Findings                                    |                         |  |
| 1. Pain  |  |  | ++                  | -    | -               | -                                  | TC- 8900 cell/ cumm<br>DC: P – 60% L– 36% E - 4%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 70%<br>Bl. Sugar (R) – 107 mgs%<br>Bl. Urea - 15 mgs%<br>S.Cholesterol – 153 mgs% | Impression<br>Normal Study.  | TC - 9000 cell/cumm<br>DC: P - 62% L -36% E - 2%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 72%<br>Bl. Sugar (R) - 88 mgs %<br>Bl. Urea - 15 mgs%<br>S.Cholesterol – 161 mgs% |  |                         |  |
| 2. Stiffness   |  |  | -                   | -    | -               | -                                  |   |  |   |  |                         |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)        |  |  | I                   | -    | -               | -                                  |   |  |   |  |                         |  |
| 4.Measurement  |  |  | 34cm                | 33cm | 33cm            | 32cm                               |   |  |   |  |                         |  |
| 5.Tenderness   |  |  | ++                  | -    | -               | -                                  |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few pus cells | Response: Good  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |                         |  |
| 6.Crepitation on movements                               |  |  | -                   | -    | -               | -                                  |   |  |   |  |                         |  |
| 7.Swelling   |  |  | +                   | -    | -               | -                                  |   |  |   |  |                         |  |
| 8. Taking time to walk for 100 feet distance             |  |  | 63sec               |      | 52sec           |                                    |   |  |   |  |                         |  |

|  |  |                         |      |                 |      |   |  |   |   |                         |  |
|--|--|-------------------------|------|-----------------|------|---|--|---|---|-------------------------|--|
| 10. Name: Beema  |  | Age /Sex: 46/F          |      | O.P.No: 37646   |      | From: 17/06/08  |  | To: 31/07/08  |   | No. of Days Treated: 45 |  |
| DRUG: Chukku Chooranam                                     |  | Occupation : House Wife |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Left)   |  |   |   |                         |  |
| Complaints and Duration :                                  |  |                         |      |                 |      |   |  |   |   |                         |  |
| Pain and swelling ⊕ in the left knee joint since 2 months. |  | Before Treatment        |      | After Treatment |      | Investigation   |  |   |   |                         |  |
|  |  |                         |      |                 |      | Before Treatment  |  |   | After Treatment   |                         |  |
|  |  | Right                   | Left | Right           | Left | Blood   |  | Radiological Findings   |   | Blood                   |  |
| 1. Pain  |  | -                       | ++   | -               | -    | TC- 9000 cell/ cumm<br>DC: P – 50% L– 48% E - 2%<br>ESR<br>½ hour - 4mm<br>1 hour - 8mm<br>Hb% - 80%<br>Bl. Sugar (R) – 78 mgs%<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 150 mgs% | 1. Soft tissue swelling<br><br>Impression<br>Left Knee Osteo arthritis | TC - 9100 cell/cumm<br>DC: P - 53% L -45% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 81%<br>Bl. Sugar (R) - 72 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 145 mgs% | 1. Soft tissue swelling<br><br>Impression<br>Left Knee Osteoarthritis |                         |  |
| 2. Stiffness   |  | -                       | -    | -               | -    |   |  |   |   |                         |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  | -                       | I    | -               | -    |   |  |   |   |                         |  |
| 4.Measurement  |  | 33cm                    | 32cm | 31cm            | 31cm |   |  |   |   |                         |  |
| 5.Tenderness   |  | -                       | ++   | -               | -    |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD               | Response: Good  |   |                         |  |
| 6.Crepitation on movements                                 |  | -                       | -    | -               | -    |   |  |   |   |                         |  |
| 7.Swelling   |  | -                       | +    | -               | -    |   |  |   |   |                         |  |
| 8. Taking time to walk for 100 feet distance               |  | 62sec                   |      | 52sec           |      |   |  |   |   |                         |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|  |  |                |                         |               |                 |                                   |   |  |  |  |  |
|--|--|----------------|-------------------------|---------------|-----------------|-----------------------------------|---|--|--|--|--|
| 11. Name: Aisha Beevi                                      |  | Age /Sex: 43/F |                         | O.P.No: 37358 |                 | From: 16/06/08                    |   | To: 29/07/08   |  | No. of Days Treated: 44                                  |  |
| DRUG: Chukku Chooranam                                     |  |                | Occupation : House Wife |               |                 | DIAGNOSIS: Azhal Keel Vayu (Both) |   |  |  |  |  |
| Complaints and Duration :                                  |  |                |                         |               |                 |                                   |   |  |  |  |  |
| Pain and swelling ⊕ in the both knee joint since 4 months. |  |                | Before Treatment        |               | After Treatment |                                   | Investigation   |  |  |  |  |
|  |  |                |                         |               |                 |                                   | Before Treatment  |  | After Treatment  |  |  |
|  |  |                | Right                   | Left          | Right           | Left                              | Blood   | Radiological Findings  | Blood  | Radiological Findings                                    |  |
| 1. Pain  |  |                | +                       | ++            | -               | +                                 | TC- 9200 cell/ cumm<br>DC: P – 62% L– 34% E - 4%<br>ESR<br>½ hour - 8mm<br>1 hour - 15mm<br>Hb% - 73%<br>Bl. Sugar (R) – 120 mgs%<br>Bl. Urea - 23 mgs%<br>S.Cholesterol – 146 mgs% | 1. Subchondral sclerosis.  | TC - 9100 cell/cumm<br>DC: P - 63% L -36% E - 1%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 72%<br>Bl. Sugar (R) - 108 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 140 mgs% | 1. Subchondral sclerosis.                                |  |
| 2. Stiffness   |  |                | -                       | -             | -               | -                                 |   | 2. Narrowed joint space.   |  | 2. Narrowed joint space.                                 |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  |                | I                       | I             | I               | I                                 |   | Impression<br>Bilateral Osteo arthritis                            | Bl. Sugar (R) - 108 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 140 mgs%  | Impression<br>Bilateral Osteoarthritis                   |  |
| 4.Measurement  |  |                | 38cm                    | 39cm          | 36cm            | 38cm                              |   |  |  |  |  |
| 5.Tenderness   |  |                | -                       | +             | -               | +                                 |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : 1-2 pus cells | Response: Fair   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |
| 6.Crepitation on movements                                 |  |                | +                       | ++            | -               | +                                 |   |  |  |  |  |
| 7.Swelling   |  |                | +                       | ++            | -               | +                                 |   |  |  |  |  |
| 8. Taking time to walk for 100 feet distance               |  |                | 60sec                   |               | 56sec           |                                   |   |  |  |  |  |

|   |  |                |                     |               |                 |                |  |  |   |  |  |
|---|--|----------------|---------------------|---------------|-----------------|----------------|--|--|---|--|--|
| 12. Name: Sankarrammal                                  |  | Age /Sex: 65/F |                     | O.P.No: 37524 |                 | From: 17/06/08 |  | To: 31/07/08   |   | No. of Days Treated: 45                                  |  |
| DRUG: Chukku Chooranam                                  |  |                | Occupation : Coolie |               |                 |                | DIAGNOSIS: Azhal Keel Vayu (Left)  |  |   |  |  |
| Complaints and Duration :                               |  |                |                     |               |                 |                |  |  |   |  |  |
| Pain and swelling ⊕ in the left knee joint since 1month |  |                | Before Treatment    |               | After Treatment |                | Investigation  |  |   |  |  |
|   |  |                |                     |               |                 |                | Before Treatment   |  |   | After Treatment  |  |
|   |  |                | Right               | Left          | Right           | Left           | Blood  | Radiological Findings                                    | Blood   | Radiological Findings                                    |  |
| 1. Pain   |  |                | ++                  | +             | -               | -              | TC- 9000 cell/ cumm<br>DC: P – 60% L– 35% E - 5%<br>ESR<br>½ hour - 5mm<br>1 hour - 10mm<br>Hb% - 74%<br>Bl. Sugar (R) – 96 mgs%<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 154 mgs% | Impression<br>Normal Study.                              | TC - 9200 cell/cumm<br>DC: P - 61% L -37% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 78%<br>Bl. Sugar (R) - 88 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 149 mgs% | Impression<br>Normal Study.                              |  |
| 2. Stiffness  |  |                | -                   | -             | -               | -              |  |  |   |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  |                | I                   | I             | -               | -              |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD | Response: Good  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |
| 4.Measurement   |  |                | 32cm                | 31cm          | 31cm            | 30cm           |  |  |   |  |  |
| 5.Tenderness  |  |                | ++                  | ++            | -               | -              |  |  |   |  |  |
| 6.Crepitation on movements                              |  |                | ++                  | +             | -               | -              |  |  |   |  |  |
| 7.Swelling  |  |                | -                   | +             | -               | -              |  |  |   |  |  |
| 8. Taking time to walk for 100 feet distance            |  |                | 60sec               |               | 50sec           |                |  |  |   |  |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|  |  |                |                     |               |                 |                                    |  |  |   |   |  |
|--|--|----------------|---------------------|---------------|-----------------|------------------------------------|--|--|---|---|--|
| 13. Name: Alwar  |  | Age /Sex: 65/M |                     | O.P.No: 40393 |                 | From: 01/07/08                     |  | To: 10/08/08   |   | No. of Days Treated: 41   |  |
| DRUG: Chukku Chooranam                                     |  |                | Occupation : Coolie |               |                 | DIAGNOSIS: Azhal Keel Vayu (Right) |  |  |   |   |  |
| Complaints and Duration :                                  |  |                |                     |               |                 |                                    |  |  |   |   |  |
| Pain and tenderness ⊕ in the right knee joint since 1 year |  |                | Before Treatment    |               | After Treatment |                                    | Investigation  |  |   |   |  |
|  |  |                |                     |               |                 |                                    | Before Treatment   |  |   | After Treatment   |  |
|  |  |                | Right               | Left          | Right           | Left                               | Blood  | Radiological Findings  | Blood   | Radiological Findings   |  |
| 1. Pain  |  |                | ++                  | -             | -               | -                                  | TC- 8900 cell/ cumm<br>DC: P – 62% L– 34% E - 4%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 70%<br>Bl. Sugar (R) – 98 mgs%<br>Bl. Urea - 29 mgs%<br>S.Cholesterol – 137 mgs% | 1. Subchondral sclerosis.<br>2. Soft tissue swelling<br><br>Impression<br>Right knee Osteo arthritis | TC - 9000 cell/cumm<br>DC: P - 64% L -34% E - 2%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 72%<br>Bl. Sugar (R) - 89 mgs %<br>Bl. Urea - 22 mgs%<br>S.Cholesterol – 143 mgs% | 1. Subchondral sclerosis.<br>2. Soft tissue swelling<br>Impression<br>Right knee Osteoarthritis |  |
| 2. Stiffness   |  |                | -                   | -             | -               | -                                  |  |  |   |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  |                | II                  | -             | -               | -                                  |  |  |   |   |  |
| 4.Measurement  |  |                | 29cm                | 30cm          | 28cm            | 28cm                               |  |  |   |   |  |
| 5.Tenderness   |  |                | +                   | -             | -               | -                                  |  |  |   |   |  |
| 6.Crepitation on movements                                 |  |                | +                   | -             | -               | -                                  |  |  |   |   |  |
| 7.Swelling   |  |                | -                   | -             | -               | -                                  |  |  |   |   |  |
| 8. Taking time to walk for 100 feet distance               |  |                | 62sec               |               | 52sec           |                                    |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD   | Response: Good  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  |  |

|   |  |                |                     |               |                 |                                   |   |  |  |   |  |
|---|--|----------------|---------------------|---------------|-----------------|-----------------------------------|---|--|--|---|--|
| 14. Name: Mohamadhu                                     |  | Age /Sex: 59/F |                     | O.P.No: 40692 |                 | From: 02/07/08                    |   | To: 10/08/08   |  | No. of Days Treated: 40   |  |
| DRUG: Chukku Chooranam                                  |  |                | Occupation : Coolie |               |                 | DIAGNOSIS: Azhal Keel Vayu (Left) |   |  |  |   |  |
| Complaints and Duration :                               |  |                |                     |               |                 |                                   |   |  |  |   |  |
| Pain and swelling ⊕ in the left knee joint since 1 year |  |                | Before Treatment    |               | After Treatment |                                   | Investigation   |  |  |   |  |
|   |  |                |                     |               |                 |                                   | Before Treatment  |  | After Treatment  |   |  |
|   |  |                | Right               | Left          | Right           | Left                              | Blood   | Radiological Findings  | Blood  | Radiological Findings   |  |
| 1. Pain   |  |                | -                   | ++            | -               | -                                 | TC- 9700 cell/ cumm<br>DC: P – 71% L– 25% E - 4%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 72%<br>Bl. Sugar (R) – 110 mgs%<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 145 mgs% | 1. Soft tissue swelling<br>2. Narrowed joint space.<br><br>Impression<br>Left Knee Osteo arthritis | TC - 9800 cell/cumm<br>DC: P - 68% L -30% E - 2%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 74%<br>Bl. Sugar (R) - 118 mgs %<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 149 mgs% | 1. Reduced Soft tissue swelling<br>2. Reduced Narrowed joint space.<br><br>Impression<br>Left Knee Osteoarthritis |  |
| 2. Stiffness  |  |                | -                   | ++            | -               | -                                 |   |  |  |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  |                | -                   | II            | -               | -                                 |   |  |  |   |  |
| 4.Measurement   |  |                | 30cm                | 31cm          | 29cm            | 30cm                              |   |  |  |   |  |
| 5.Tenderness  |  |                | -                   | +             | -               | -                                 |   |  |  |   |  |
| 6.Crepitation on movements                              |  |                | -                   | +             | -               | -                                 |   |  |  |   |  |
| 7.Swelling  |  |                | -                   | -             | -               | -                                 |   |  |  |   |  |
| 8. Taking time to walk for 100 feet distance            |  |                | 60sec               |               | 50sec           |                                   |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few epi cells                                 | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**

**Fair Response**

**Poor Response**

- Significant relief of symptoms

- Partial relief of symptoms

- In Significant relief of symptoms

|   |  |                |                     |               |                 |                                   |   |   |   |                         |  |
|---|--|----------------|---------------------|---------------|-----------------|-----------------------------------|---|---|---|-------------------------|--|
| 15. Name: Kajamaidin                                    |  | Age /Sex: 60/M |                     | O.P.No: 37980 |                 | From: 19/07/08                    |   | To: 29/08/08  |   | No. of Days Treated: 42 |  |
| DRUG: Chukku Chooranam                                  |  |                | Occupation : Farmer |               |                 | DIAGNOSIS: Azhal Keel Vayu (Both) |   |   |   |                         |  |
| Complaints and Duration :                               |  |                |                     |               |                 |                                   |   |   |   |                         |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  |                | Before Treatment    |               | After Treatment |                                   | Investigation   |   |   |                         |  |
|   |  |                |                     |               |                 |                                   | Before Treatment  |   |   | After Treatment         |  |
|   |  |                | Right               | Left          | Right           | Left                              | Blood   |   | Radiological Findings   | Blood                   |  |
| 1. Pain   |  |                | ++                  | ++            | -               | -                                 | TC- 9200 cell/ cumm<br>DC: P – 60% L– 35% E - 5%<br>ESR<br>½ hour - 2mm<br>1 hour - 5mm<br>Hb% - 74%<br>Bl. Sugar (R) – 88 mgs%<br>Bl. Urea - 26 mgs%<br>S.Cholesterol – 148 mgs% | 1. Subchondral sclerosis.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9800 cell/cumm<br>DC: P - 60% L -37% E - 3%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 75%<br>Bl. Sugar (R) - 82 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 155 mgs% |                         | 1. Subchondral sclerosis.<br><br>Impression<br>Bilateral<br>Osteoarthritis |
| 2. Stiffness  |  |                | -                   | -             | -               | -                                 |   |   |   |                         |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  |                | I                   | I             | -               | -                                 |   |   |   |                         |  |
| 4.Measurement   |  |                | 32cm                | 33cm          | 32cm            | 32cm                              |   |   |   |                         |  |
| 5.Tenderness  |  |                | ++                  | ++            | -               | -                                 |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                    | Response: Good  |                         | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                   |
| 6.Crepitation on movements                              |  |                | ++                  | +             | -               | -                                 |   |   |   |                         |  |
| 7.Swelling  |  |                | -                   | -             | -               | -                                 |   |   |   |                         |  |
| 8. Taking time to walk for 100 feet distance            |  |                | 64sec               |               | 54sec           |                                   |   |   |   |                         |  |

|   |  |  |                     |      |                 |      |   |  |  |                 |  |  |  |  |
|---|--|--|---------------------|------|-----------------|------|---|--|--|-----------------|--|--|--|--|
| 16. Name: Subaiya Pandian                               |  |  | Age /Sex: 65/M      |      | O.P.No: 39730   |      | From: 27/06/08  |  | To: 04/08/08   |                 | No. of Days Treated: 39  |  |  |  |
| DRUG: Chukku Chooranam                                  |  |  | Occupation : Coolie |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Left)   |  |  |                 |  |  |  |  |
| Complaints and Duration :                               |  |  |                     |      |                 |      |   |  |  |                 |  |  |  |  |
| Pain and swelling ⊕ in the left knee joint since 1 year |  |  | Before Treatment    |      | After Treatment |      | Investigation   |  |  |                 |  |  |  |  |
|   |  |  |                     |      |                 |      | Before Treatment  |  |  | After Treatment |  |  |  |  |
|   |  |  | Right               | Left | Right           | Left | Blood   |  | Radiological Findings  |                 | Blood  |  | Radiological Findings                  |  |
| 1. Pain   |  |  | -                   | ++   | -               | +    | TC- 9500 cell/ cumm<br>DC: P – 63% L– 32% E - 5%<br>ESR<br>½ hour - 10mm<br>1 hour - 20mm<br>Hb% - 78%<br>Bl. Sugar (R) – 89 mgs%<br>Bl. Urea - 29 mgs%<br>S.Cholesterol – 163 mgs% |  | 1. Soft tissue swelling<br>2. Narrowed joint space.<br><br>Impression<br>Left Knee Osteo arthritis |                 | TC - 9000 cell/cumm<br>DC: P - 65% L -33% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 74%<br>Bl. Sugar (R) - 88mgs %<br>Bl. Urea - 25mgs%<br>S.Cholesterol - 160mgs% |  | 1. Reduced Soft tissue swelling        |  |
| 2. Stiffness  |  |  | -                   | ++   | -               | +    |   |  |  |                 |  |  | 2. Narrowed joint space.               |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  |  | -                   | I    | -               | -    |   |  |  |                 |  |  | Impression<br>Left Knee Osteoarthritis |  |
| 4.Measurement   |  |  | 30cm                | 32cm | 29cm            | 31cm |   |  |  |                 |  |  |  |  |
| 5.Tenderness  |  |  | -                   | +    | -               | -    |   |  |  |                 |  |  |  |  |
| 6.Crepitation on movements                              |  |  | -                   | ++   | -               | +    |   |  |  |                 |  |  |  |  |
| 7.Swelling  |  |  | -                   | +    | -               | -    |   |  |  |                 |  |  |  |  |
| 8. Taking time to walk for 100 feet distance            |  |  | 70sec               |      | 65sec           |      |   |  |  |                 |  |  |  |  |
|   |  |  |                     |      |                 |      | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  |  | Response: Fair   |                 | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD   |  |  |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|  |  |                |                     |               |                 |                                   |   |  |  |   |  |
|--|--|----------------|---------------------|---------------|-----------------|-----------------------------------|---|--|--|---|--|
| 17. Name: Thangammal                                     |  | Age /Sex: 40/F |                     | O.P.No: 40826 |                 | From: 02/07/08                    |   | To: 10/08/08   |  | No. of Days Treated: 40   |  |
| DRUG: Chukku Chooranam                                   |  |                | Occupation : Coolie |               |                 | DIAGNOSIS: Azhal Keel Vayu (Left) |   |  |  |   |  |
| Complaints and Duration :                                |  |                |                     |               |                 |                                   |   |  |  |   |  |
| Pain and swelling ⊕ in the left knee joint since 2 years |  |                | Before Treatment    |               | After Treatment |                                   | Investigation   |  |  |   |  |
|  |  |                |                     |               |                 |                                   | Before Treatment  |  |  | After Treatment   |  |
|  |  |                | Right               | Left          | Right           | Left                              | Blood   | Radiological Findings  | Blood  | Radiological Findings   |  |
| 1. Pain  |  |                | -                   | ++            | -               | -                                 | TC- 10000 cell/ cumm<br>DC: P – 71% L– 24% E - 5%<br>ESR<br>½ hour - 4mm<br>1 hour - 8mm<br>Hb% - 72%<br>Bl. Sugar (R) – 88 mgs%<br>Bl. Urea - 16mgs%<br>S.Cholesterol – 160 mgs% | 1. Soft tissue swelling<br><br>Impression<br>Left Knee Osteo arthritis | TC - 10100 cell/cumm<br>DC: P - 70% L -27% E - 3%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 72%<br>Bl. Sugar (R) - 82 mgs %<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 162 mgs% | 1. Soft tissue swelling<br><br>Impression<br>Left Knee Osteoarthritis |  |
| 2. Stiffness   |  |                | -                   | +             | -               | -                                 |   |  |  |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)        |  |                | -                   | I             | -               | -                                 |   |  |  |   |  |
| 4.Measurement  |  |                | 30cm                | 32cm          | 30cm            | 30cm                              |   |  |  |   |  |
| 5.Tenderness   |  |                | -                   | -             | -               | -                                 |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few pus cells     | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD              |  |
| 6.Crepitation on movements                               |  |                | -                   | +             | -               | -                                 |   |  |  |   |  |
| 7.Swelling   |  |                | -                   | +             | -               | -                                 |   |  |  |   |  |
| 8. Taking time to walk for 100 feet distance             |  |                | 65sec               |               | 55sec           |                                   |   |  |  |   |  |

|  |  |                |                     |               |                 |                                   |  |  |   |   |  |
|--|--|----------------|---------------------|---------------|-----------------|-----------------------------------|--|--|---|---|--|
| 18. Name: Vedhamani  |  | Age /Sex: 62/M |                     | O.P.No: 40890 |                 | From: 03/07/08                    |  | To: 13/08/08   |   | No. of Days Treated: 42   |  |
| DRUG: Chukku Chooranam                                     |  |                | Occupation : Coolie |               |                 | DIAGNOSIS: Azhal Keel Vayu (Left) |  |  |   |   |  |
| Complaints and Duration :                                  |  |                |                     |               |                 |                                   |  |  |   |   |  |
| Pain and swelling ⊕ in the left knee joint since 3 months. |  |                | Before Treatment    |               | After Treatment |                                   | Investigation  |  |   |   |  |
|  |  |                |                     |               |                 |                                   | Before Treatment   |  |   | After Treatment   |  |
|  |  |                | Right               | Left          | Right           | Left                              | Blood  | Radiological Findings  | Blood   | Radiological Findings   |  |
| 1. Pain  |  |                | -                   | ++            | -               | -                                 | TC- 8700 cell/ cumm<br>DC: P – 55% L– 40% E - 5%<br>ESR<br>½ hour - 5mm<br>1 hour - 10mm<br>Hb% - 78%<br>Bl. Sugar (R) – 84 mgs%<br>Bl. Urea - 25 mgs%<br>S.Cholesterol – 149 mgs% | 1. Soft tissue swelling<br><br>Impression<br>Left Knee Osteo arthritis | TC - 8800 cell/cumm<br>DC: P - 55% L -42% E - 3%<br>ESR:<br>½ hour - 2mm<br>1 hour - 5mm<br>Hb% - 78%<br>Bl. Sugar (R) - 72 mgs %<br>Bl. Urea - 22 mgs%<br>S.Cholesterol – 153 mgs% | 1. Soft tissue swelling<br><br>Impression<br>Left Knee Osteoarthritis |  |
| 2. Stiffness   |  |                | -                   | ++            | -               | -                                 |  |  |   |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  |                | -                   | II            | -               | -                                 |  |  |   |   |  |
| 4.Measurement  |  |                | 29cm                | 29cm          | 28cm            | 28cm                              |  |  |   |   |  |
| 5.Tenderness   |  |                | -                   | +             | -               | -                                 |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD               | Response: Good  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD              |  |
| 6.Crepitation on movements                                 |  |                | -                   | +             | -               | -                                 |  |  |   |   |  |
| 7.Swelling   |  |                | -                   | -             | -               | -                                 |  |  |   |   |  |
| 8. Taking time to walk for 100 feet distance               |  |                | 60sec               |               | 50sec           |                                   |  |  |   |   |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|   |  |                     |      |                 |      |   |  |   |   |  |  |
|---|--|---------------------|------|-----------------|------|---|--|---|---|--|--|
| 19. Name: Arumugam                                      |  | Age/Sex: 56/M       |      | O.P.No: 41134   |      | From: 04/07/08  |  | To: 16/08/08  |   | No. of Days Treated: 44                                  |  |
| DRUG: Chukku Chooranam                                  |  | Occupation : Coolie |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |   |   |  |  |
| Complaints and Duration :                               |  |                     |      |                 |      |   |  |   |   |  |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  | Before Treatment    |      | After Treatment |      | Investigation   |  |   |   |  |  |
|   |  |                     |      |                 |      | Before Treatment  |  |   | After Treatment                           |  |  |
|   |  | Right               | Left | Right           | Left | Blood   | Radiological Findings  | Blood   | Radiological Findings                     |  |  |
| 1. Pain   |  | ++                  | +    | -               | -    | TC- 9000 cell/ cumm<br>DC: P – 64% L– 30% E - 6%<br>ESR<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 80%<br>Bl. Sugar (R) – 80 mgs%<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 147 mgs% | Impression<br>Bilateral Osteo<br>arthritis                         | TC - 9200 cell/cumm<br>DC: P - 62% L -35% E - 3%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 80%<br>Bl. Sugar (R) - 72 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 150 mgs% | Impression<br>Bilateral<br>Osteoarthritis |  |  |
| 2. Stiffness  |  | -                   | -    | -               | -    |   |  |   |   |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  | II                  | II   | -               | -    |   |  |   |   |  |  |
| 4.Measurement   |  | 38cm                | 37cm | 36cm            | 36cm |   |  |   |   |  |  |
| 5.Tenderness  |  | +                   | ++   | -               | -    |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few pus cells | Response: Good  |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |
| 6.Crepitation on movements                              |  | ++                  | ++   | -               | -    |   |  |   |   |  |  |
| 7.Swelling  |  | ++                  | +    | -               | -    |   |  |   |   |  |  |
| 8. Taking time to walk for 100 feet distance            |  | 60sec               |      | 50sec           |      |   |  |   |   |  |  |

|   |  |                |                     |               |                 |                                   |  |  |  |   |  |
|---|--|----------------|---------------------|---------------|-----------------|-----------------------------------|--|--|--|---|--|
| 20. Name: Murugan   |  | Age /Sex: 67/M |                     | O.P.No: 41167 |                 | From: 04/07/08                    |  | To: 12/08/08   |  | No. of Days Treated: 40   |  |
| DRUG: Chukku Chooranam                                    |  |                | Occupation : Coolie |               |                 | DIAGNOSIS: Azhal Keel Vayu (Both) |  |  |  |   |  |
| Complaints and Duration :                                 |  |                |                     |               |                 |                                   |  |  |  |   |  |
| Pain and swelling ⊕ in the both knee joint since 6 months |  |                | Before Treatment    |               | After Treatment |                                   | Investigation  |  |  |   |  |
|   |  |                |                     |               |                 |                                   | Before Treatment   |  |  | After Treatment   |  |
|   |  |                | Right               | Left          | Right           | Left                              | Blood  | Radiological Findings  | Blood  | Radiological Findings   |  |
| 1. Pain   |  |                | +                   | ++            | -               | -                                 | TC- 9100 cell/ cumm<br>DC: P – 58% L– 38% E - 4%<br>ESR<br>½ hour - 4mm<br>1 hour - 8mm<br>Hb% - 70%<br>Bl. Sugar (R) – 120 mgs%<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 153 mgs% | 1. Narrowed joint space.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9200 cell/cumm<br>DC: P - 58% L -40% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 72%<br>Bl. Sugar (R) - 118 mgs %<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 149 mgs% | 1. Narrowed joint space.<br><br>Impression<br>Bilateral<br>Osteoarthritis |  |
| 2. Stiffness  |  |                | -                   | -             | -               | -                                 |  |  |  |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)         |  |                | I                   | I             | -               | -                                 |  |  |  |   |  |
| 4.Measurement   |  |                | 40cm                | 40cm          | 38cm            | 38cm                              |  |  |  |   |  |
| 5.Tenderness  |  |                | ++                  | +             | -               | -                                 |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                   | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                  |  |
| 6.Crepitation on movements                                |  |                | ++                  | ++            | -               | -                                 |  |  |  |   |  |
| 7.Swelling  |  |                | ++                  | +             | -               | -                                 |  |  |  |   |  |
| 8. Taking time to walk for 100 feet distance              |  |                | 62sec               |               | 52sec           |                                   |  |  |  |   |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|  |  |                |                     |               |                 |                                   |  |  |  |   |  |
|--|--|----------------|---------------------|---------------|-----------------|-----------------------------------|--|--|--|---|--|
| 21. Name: Mohamadhu Kabir                                  |  | Age /Sex: 49/M |                     | O.P.No: 41850 |                 | From: 08/07/08                    |  | To: 21/08/08   |  | No. of Days Treated: 45   |  |
| DRUG: Chukku Chooranam                                     |  |                | Occupation : Coolie |               |                 | DIAGNOSIS: Azhal Keel Vayu (Both) |  |  |  |   |  |
| Complaints and Duration :                                  |  |                |                     |               |                 |                                   |  |  |  |   |  |
| Pain and swelling ⊕ in the both knee joint since 6 months. |  |                | Before Treatment    |               | After Treatment |                                   | Investigation  |  |  |   |  |
|  |  |                |                     |               |                 |                                   | Before Treatment   |  |  | After Treatment   |  |
|  |  |                | Right               | Left          | Right           | Left                              | Blood  | Radiological Findings  | Blood  | Radiological Findings   |  |
| 1. Pain  |  |                | +                   | ++            | -               | -                                 | TC- 9000 cell/ cumm<br>DC: P – 55% L– 40% E - 5%<br>ESR<br>½ hour - 4mm<br>1 hour - 8mm<br>Hb% - 72%<br>Bl. Sugar (R) – 112 mgs%<br>Bl. Urea - 19 mgs%<br>S.Cholesterol – 163 mgs% | 1. Narrowed joint space.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9100 cell/cumm<br>DC: P - 55% L -42% E - 3%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 74%<br>Bl. Sugar (R) - 118 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 160 mgs% | 1. Narrowed joint space.<br><br>Impression<br>Bilateral<br>Osteoarthritis |  |
| 2. Stiffness   |  |                | -                   | -             | -               | -                                 |  |  |  |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  |                | I                   | I             | -               | -                                 |  |  |  |   |  |
| 4.Measurement  |  |                | 36cm                | 34cm          | 34cm            | 34cm                              |  |  |  |   |  |
| 5.Tenderness   |  |                | -                   | -             | -               | -                                 |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                   | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                  |  |
| 6.Crepitation on movements                                 |  |                | ++                  | +             | -               | -                                 |  |  |  |   |  |
| 7.Swelling   |  |                | ++                  | +             | -               | -                                 |  |  |  |   |  |
| 8. Taking time to walk for 100 feet distance               |  |                | 65sec               |               | 55sec           |                                   |  |  |  |   |  |

|  |  |                |                         |               |                 |                |  |  |  |  |  |
|--|--|----------------|-------------------------|---------------|-----------------|----------------|--|--|--|--|--|
| 22. Name: Krishnammal                                      |  | Age /Sex: 70/F |                         | O.P.No: 42010 |                 | From: 09/07/08 |  | To: 21/08/08   |  | No. of Days Treated: 44                                  |  |
| DRUG: Chukku Chooranam                                     |  |                | Occupation : House Wife |               |                 |                | DIAGNOSIS: Azhal Keel Vayu (Left)  |  |  |  |  |
| Complaints and Duration :                                  |  |                |                         |               |                 |                |  |  |  |  |  |
| Pain and swelling ⊕ in the left knee joint since 3 months. |  |                | Before Treatment        |               | After Treatment |                | Investigation  |  |  |  |  |
|  |  |                |                         |               |                 |                | Before Treatment   |  |  | After Treatment  |  |
|  |  |                | Right                   | Left          | Right           | Left           | Blood  | Radiological Findings                                    | Blood  | Radiological Findings                                    |  |
| 1. Pain  |  |                | -                       | ++            | -               | -              | TC- 8600 cell/ cumm<br>DC: P – 48% L– 48% E - 4%<br>ESR<br>½ hour - 10mm<br>1 hour - 15mm<br>Hb% - 70%<br>Bl. Sugar (R) – 107 mgs%<br>Bl. Urea - 19 mgs%<br>S.Cholesterol – 139 mgs% | Impression<br>Left Knee Osteo<br>arthritis               | TC - 8800 cell/cumm<br>DC: P - 52% L -46% E - 2%<br>ESR:<br>½ hour - 5mm<br>1 hour - 7mm<br>Hb% - 74%<br>Bl. Sugar (R) - 108 mgs %<br>Bl. Urea - 19 mgs%<br>S.Cholesterol – 143 mgs% | Impression<br>Left Knee<br>Osteoarthritis                |  |
| 2. Stiffness   |  |                | -                       | -             | -               | -              |  |  |  |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  |                | -                       | I             | -               | -              |  |  |  |  |  |
| 4.Measurement  |  |                | 35cm                    | 34cm          | 35cm            | 33cm           |  |  |  |  |  |
| 5.Tenderness   |  |                | -                       | ++            | -               | -              |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |
| 6.Crepitation on movements                                 |  |                | -                       | ++            | -               | -              |  |  |  |  |  |
| 7.Swelling   |  |                | -                       | ++            | -               | -              |  |  |  |  |  |
| 8. Taking time to walk for 100 feet distance               |  |                | 60sec                   |               | 50sec           |                |  |  |  |  |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|   |  |                     |      |                 |      |   |  |  |                 |  |  |   |  |
|---|--|---------------------|------|-----------------|------|---|--|--|-----------------|--|--|---|--|
| 23. Name: Krishnan  |  | Age /Sex: 65/M      |      | O.P.No: 42537   |      | From: 11/07/08  |  | To: 19/08/08   |                 | No. of Days Treated: 40  |  |   |  |
| DRUG: Chukku Chooranam                                    |  | Occupation : Coolie |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |  |                 |  |  |   |  |
| Complaints and Duration :                                 |  |                     |      |                 |      |   |  |  |                 |  |  |   |  |
| Pain and tenderness ⊕ in the both knee joint since 1 year |  | Before Treatment    |      | After Treatment |      | Investigation   |  |  |                 |  |  |   |  |
|   |  |                     |      |                 |      | Before Treatment  |  |  | After Treatment |  |  |   |  |
|   |  | Right               | Left | Right           | Left | Blood   |  | Radiological Findings  |                 | Blood  |  | Radiological Findings   |  |
| 1. Pain   |  | +                   | ++   | -               | +    | TC- 9100 cell/ cumm<br>DC: P – 66% L– 28% E - 6%<br>ESR<br>½ hour - 10mm<br>1 hour - 20mm<br>Hb% - 70%<br>Bl. Sugar (R) – 90 mgs%<br>Bl. Urea - 29 mgs%<br>S.Cholesterol – 153 mgs% |  | 1. Narrowed joint space.<br><br>Impression<br>Bilateral Osteo<br>arthritis |                 | TC - 9100 cell/cumm<br>DC: P - 68% L -28% E - 4%<br>ESR:<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 72%<br>Bl. Sugar (R) - 82 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 150 mgs% |  | 1. Narrowed joint space.<br><br>Impression<br>Bilateral<br>Osteoarthritis |  |
| 2. Stiffness  |  | +                   | +    | -               | +    |   |  |  |                 |  |  |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)         |  | I                   | I    | -               | I    |   |  |  |                 |  |  |   |  |
| 4.Measurement   |  | 33cm                | 34cm | 33cm            | 33cm |   |  |  |                 |  |  |   |  |
| 5.Tenderness  |  | +                   | +    | -               | -    |   |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                   |                 | Response: Fair   |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                  |  |
| 6.Crepitation on movements                                |  | +                   | ++   | -               | +    |   |  |  |                 |  |  |   |  |
| 7.Swelling  |  | -                   | -    | -               | -    |   |  |  |                 |  |  |   |  |
| 8. Taking time to walk for 100 feet distance              |  | 58sec               |      | 54sec           |      |   |  |  |                 |  |  |   |  |

|   |  |                     |      |                 |      |   |  |  |   |                         |  |
|---|--|---------------------|------|-----------------|------|---|--|--|---|-------------------------|--|
| 24. Name: Murugan                                       |  | Age /Sex: 41/M      |      | O.P.No: 43270   |      | From: 15/07/08  |  | To: 23/08/08   |   | No. of Days Treated: 40 |  |
| DRUG: Chukku Chooranam                                  |  | Occupation : Farmer |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |  |   |                         |  |
| Complaints and Duration :                               |  |                     |      |                 |      |   |  |  |   |                         |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  | Before Treatment    |      | After Treatment |      | Investigation   |  |  |   |                         |  |
|   |  |                     |      |                 |      | Before Treatment  |  |  | After Treatment   |                         |  |
|   |  | Right               | Left | Right           | Left | Blood   |  | Radiological Findings  |   | Blood                   |  |
| 1. Pain   |  | +                   | ++   | -               | -    | TC- 9000 cell/ cumm<br>DC: P – 58% L– 38% E - 4%<br>ESR<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 80%<br>Bl. Sugar (R) – 72 mgs%<br>Bl. Urea - 25 mgs%<br>S.Cholesterol – 146 mgs% | 1. Narrowed joint space.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9100 cell/cumm<br>DC: P - 58% L -40% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 80%<br>Bl. Sugar (R) - 120 mgs %<br>Bl. Urea - 25 mgs%<br>S.Cholesterol – 148 mgs% | 1. Narrowed joint space.<br><br>Impression<br>Bilateral<br>Osteoarthritis |                         |  |
| 2. Stiffness  |  | -                   | -    | -               | -    |   |  |  |   |                         |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  | II                  | II   | -               | -    |   |  |  |   |                         |  |
| 4.Measurement   |  | 40cm                | 38cm | 37cm            | 37cm |   |  |  |   |                         |  |
| 5.Tenderness  |  | ++                  | +    | -               | -    |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                   | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                  |                         |  |
| 6.Crepitation on movements                              |  | ++                  | ++   | -               | -    |   |  |  |   |                         |  |
| 7.Swelling  |  | ++                  | +    | -               | -    |   |  |  |   |                         |  |
| 8. Taking time to walk for 100 feet distance            |  | 62sec               |      | 52sec           |      |   |  |  |   |                         |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms



|  |  |                     |      |                 |      |   |   |  |  |                         |  |
|--|--|---------------------|------|-----------------|------|---|---|--|--|-------------------------|--|
| 25. Name: Narayanan  |  | Age /Sex: 66/M      |      | O.P.No: 43794   |      | From: 17/07/08  |   | To: 31/08/08   |  | No. of Days Treated: 46 |  |
| DRUG: Chukku Chooranam                                       |  | Occupation : Coolie |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |   |  |  |                         |  |
| Complaints and Duration :                                    |  |                     |      |                 |      |   |   |  |  |                         |  |
| Pain and tenderness ⊕ in the both knee joint since 6 months. |  | Before Treatment    |      | After Treatment |      | Investigation   |   |  |  |                         |  |
|  |  |                     |      |                 |      | Before Treatment  |   |  | After Treatment  |                         |  |
|  |  | Right               | Left | Right           | Left | Blood   | Radiological Findings   | Blood  | Radiological Findings  |                         |  |
| 1. Pain  |  | +                   | ++   | -               | +    | TC- 9600 cell/ cumm<br>DC: P – 70% L– 25% E - 5%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 78%<br>Bl. Sugar (R) – 112 mgs%<br>Bl. Urea - 28 mgs%<br>S.Cholesterol – 157 mgs% | 1. Narrowed joint space.<br><br>Impression<br>Bilateral Osteo arthritis | TC - 9600 cell/cumm<br>DC: P - 68% L -27% E - 5%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 78%<br>Bl. Sugar (R) - 108 mgs %<br>Bl. Urea - 22 mgs%<br>S.Cholesterol – 147 mgs% | 1. Narrowed joint space.<br><br>Impression<br>Bilateral Osteoarthritis |                         |  |
| 2. Stiffness   |  | -                   | +    | -               | +    |   |   |  |  |                         |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)            |  | I                   | I    | -               | I    |   |   |  |  |                         |  |
| 4.Measurement  |  | 33cm                | 33cm | 33cm            | 32cm |   |   |  |  |                         |  |
| 5.Tenderness   |  | +                   | +    | -               | -    |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                | Response: Fair   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD               |                         |  |
| 6.Crepitation on movements                                   |  | +                   | ++   | -               | +    |   |   |  |  |                         |  |
| 7.Swelling   |  | -                   | -    | -               | -    |   |   |  |  |                         |  |
| 8. Taking time to walk for 100 feet distance                 |  | 60sec               |      | 55sec           |      |   |   |  |  |                         |  |

|  |  |                          |      |                 |      |   |  |   |                 |   |  |
|--|--|--------------------------|------|-----------------|------|---|--|---|-----------------|---|--|
| 26. Name: Kandasamy                                      |  | Age /Sex: 50/M           |      | O.P.No: 44837   |      | From: 22/07/08  |  | To: 31/08/08  |                 | No. of Days Treated: 41   |  |
| DRUG: Chukku Chooranam                                   |  | Occupation : Electrician |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |   |                 |   |  |
| Complaints and Duration :                                |  |                          |      |                 |      |   |  |   |                 |   |  |
| Pain and swelling ⊕ in the both knee joint since 4 years |  | Before Treatment         |      | After Treatment |      | Investigation   |  |   |                 |   |  |
|  |  |                          |      |                 |      | Before Treatment  |  |   | After Treatment |   |  |
|  |  | Right                    | Left | Right           | Left | Blood   |  | Radiological Findings   |                 | Blood   |  |
| 1. Pain  |  | ++                       | +    | -               | -    | TC- 9200 cell/ cumm<br>DC: P – 58% L– 38% E - 4%<br>ESR<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 70%<br>Bl. Sugar (R) – 73 mgs%<br>Bl. Urea - 30 mgs%<br>S.Cholesterol – 156 mgs% | 1. Marginal Osteophytes.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9300 cell/cumm<br>DC: P - 58% L -40% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 72%<br>Bl. Sugar (R) - 80 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 155 mgs% |                 | 1. Marginal Osteophytes.<br><br>Impression<br>Bilateral<br>Osteoarthritis |  |
| 2. Stiffness   |  | +                        | -    | -               | -    |   |  |   |                 |   |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)        |  | II                       | II   | -               | -    |   |  |   |                 |   |  |
| 4.Measurement  |  | 36cm                     | 37cm | 36cm            | 36cm |   |  |   |                 |   |  |
| 5.Tenderness   |  | +                        | -    | -               | -    |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                   | Response: Good  |                 | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                  |  |
| 6.Crepitation on movements                               |  | ++                       | +    | -               | -    |   |  |   |                 |   |  |
| 7.Swelling   |  | ++                       | +    | -               | -    |   |  |   |                 |   |  |
| 8. Taking time to walk for 100 feet distance             |  | 65sec                    |      | 55sec           |      |   |  |   |                 |   |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|  |  |                     |      |                 |      |  |  |   |  |  |  |
|--|--|---------------------|------|-----------------|------|--|--|---|--|--|--|
| 27. Name: Selva ganapathi                                    |  | Age /Sex: 54/M      |      | O.P.No: 45047   |      | From: 23/07/08   |  | To: 30/08/08  |  | No. of Days Treated: 40                                  |  |
| DRUG: Chukku Chooranam                                       |  | Occupation : Coolie |      |                 |      | DIAGNOSIS: Azhal Keel Vayu (Both)  |  |   |  |  |  |
| Complaints and Duration :                                    |  |                     |      |                 |      |  |  |   |  |  |  |
| Pain and tenderness ⊕ in the both knee joint since 6 months. |  | Before Treatment    |      | After Treatment |      | Investigation  |  |   |  |  |  |
|  |  |                     |      |                 |      | Before Treatment   |  |   | After Treatment  |  |  |
|  |  | Right               | Left | Right           | Left | Blood  | Radiological Findings  | Blood   | Radiological Findings  |  |  |
| 1. Pain  |  | ++                  | ++   | +               | +    | TC- 9200 cell/ cumm<br>DC: P – 50% L– 45% E - 5%<br>ESR<br>½ hour - 5mm<br>1 hour - 10mm<br>Hb% - 73%<br>Bl. Sugar (R) – 77 mgs%<br>Bl. Urea - 20 mgs%<br>S.Cholesterol – 155 mgs% | 1. Marginal Osteophytes.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9300 cell/cumm<br>DC: P - 52% L -45% E - 3%<br>ESR:<br>½ hour - 2mm<br>1 hour - 5mm<br>Hb% - 72%<br>Bl. Sugar (R) - 83 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 159 mgs% | 1. Marginal Osteophytes.<br><br>Impression<br>Bilateral Osteoarthritis |  |  |
| 2. Stiffness   |  | -                   | -    | -               | -    |  |  |   |  |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)            |  | II                  | II   | I               | I    |  |  |   |  |  |  |
| 4.Measurement  |  | 37cm                | 36cm | 36cm            | 36cm |  |  |   |  |  |  |
| 5.Tenderness   |  | +                   | ++   | -               | +    |  |  |   |  |  |  |
| 6.Crepitation on movements                                   |  | +                   | +    | -               | -    |  |  |   |  |  |  |
| 7.Swelling   |  | -                   | -    | -               | -    |  |  |   |  |  |  |
| 8. Taking time to walk for 100 feet distance                 |  | 62sec               |      | 56sec           |      |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                   |   | Response: Fair   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD |  |

|  |  |                |                         |               |                 |                |  |   |   |  |  |
|--|--|----------------|-------------------------|---------------|-----------------|----------------|--|---|---|--|--|
| 28. Name: Vasanthi   |  | Age /Sex: 45/F |                         | O.P.No: 45213 |                 | From: 23/07/08 |  | To: 30/08/08  |   | No. of Days Treated: 40  |  |
| DRUG: Chukku Chooranam                                     |  |                | Occupation : House Wife |               |                 |                | DIAGNOSIS: Azhal Keel Vayu (Both)  |   |   |  |  |
| Complaints and Duration :                                  |  |                |                         |               |                 |                |  |   |   |  |  |
| Pain and swelling ⊕ in the both knee joint since 8 months. |  |                | Before Treatment        |               | After Treatment |                | Investigation  |   |   |  |  |
|  |  |                |                         |               |                 |                | Before Treatment   |   |   | After Treatment  |  |
|  |  |                | Right                   | Left          | Right           | Left           | Blood  | Radiological Findings   | Blood   | Radiological Findings  |  |
| 1. Pain  |  |                | ++                      | ++            | -               | -              | TC- 9300 cell/ cumm<br>DC: P – 60% L– 34% E - 6%<br>ESR<br>½ hour - 6mm<br>1 hour - 12mm<br>Hb% - 68%<br>Bl. Sugar (R) – 95 mgs%<br>Bl. Urea - 25 mgs%<br>S.Cholesterol – 147 mgs% | 1. Subchondral sclerosis.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9200 cell/cumm<br>DC: P - 62% L -35% E - 3%<br>ESR:<br>½ hour - 3mm<br>1 hour - 6mm<br>Hb% - 70%<br>Bl. Sugar (R) - 98 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 150 mgs% | 1. Subchondral sclerosis.<br><br>Impression<br>Bilateral<br>Osteoarthritis |  |
| 2. Stiffness   |  |                | +                       | -             | -               | -              |  |   |   |  |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)          |  |                | II                      | I             | -               | -              |  |   |   |  |  |
| 4.Measurement  |  |                | 40cm                    | 38cm          | 37cm            | 37cm           |  |   |   |  |  |
| 5.Tenderness   |  |                | ++                      | +             | -               | -              |  | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD                    | Response: Good  |  |  |
| 6.Crepitation on movements                                 |  |                | +                       | +             | -               | -              |  |   |   |  |  |
| 7.Swelling   |  |                | ++                      | +             | -               | -              |  |   |   |  |  |
| 8. Taking time to walk for 100 feet distance               |  |                | 60sec                   |               | 50sec           |                |  |   |   |  |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

|   |  |                |                     |               |                 |                |   |  |   |   |  |
|---|--|----------------|---------------------|---------------|-----------------|----------------|---|--|---|---|--|
| 29. Name: Rajagopal                                     |  | Age /Sex: 55/M |                     | O.P.No: 45173 |                 | From: 23/07/08 |   | To: 05/09/08   |   | No. of Days Treated: 45                           |  |
| DRUG: Chukku Chooranam                                  |  |                | Occupation : Coolie |               |                 |                | DIAGNOSIS: Azhal Keel Vayu (Both)   |  |   |   |  |
| Complaints and Duration :                               |  |                |                     |               |                 |                |   |  |   |   |  |
| Pain and swelling ⊕ in the both knee joint since 1 year |  |                | Before Treatment    |               | After Treatment |                | Investigation   |  |   |   |  |
|   |  |                |                     |               |                 |                | Before Treatment  |  | After Treatment   |   |  |
|   |  |                | Right               | Left          | Right           | Left           | Blood   | Radiological Findings  | Blood   | Radiological Findings                             |  |
| 1. Pain   |  |                | ++                  | +             | -               | -              | TC- 9800 cell/ cumm<br>DC: P – 70% L– 25% E - 5%<br>ESR<br>½ hour - 4mm<br>1 hour - 8mm<br>Hb% - 73%<br>Bl. Sugar (R) – 77 mgs%<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 150 mgs% | 1. Marginal Osteophytes.<br>2. Narrowed joint space.<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9900 cell/cumm<br>DC: P - 68% L -30% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 5mm<br>Hb% - 74%<br>Bl. Sugar (R) - 86 mgs %<br>Bl. Urea - 18 mgs%<br>S.Cholesterol – 148 mgs% | 1. Marginal Osteophytes. 2. Narrowed joint space. |  |
| 2. Stiffness  |  |                | ++                  | -             | -               | -              |   |  |   | Impression<br>Bilateral Osteoarthritis            |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)       |  |                | II                  | II            | -               | -              |   |  |   |   |  |
| 4.Measurement   |  |                | 35cm                | 34cm          | 34cm            | 33cm           |   |  |   |   |  |
| 5.Tenderness  |  |                | ++                  | +             | -               | -              |   |  |   |   |  |
| 6.Crepitation on movements                              |  |                | ++                  | ++            | -               | -              |   |  |   |   |  |
| 7.Swelling  |  |                | ++                  | +             | -               | -              |   |  |   |   |  |
| 8. Taking time to walk for 100 feet distance            |  |                | 72sec               |               | 62sec           |                |   |  |   |   |  |
|   |  |                |                     |               |                 |                | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : 1-2 pus cells  | Response: Good   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : NAD  |   |  |

|  |  |                |                     |               |                 |                                   |   |   |   |   |  |
|--|--|----------------|---------------------|---------------|-----------------|-----------------------------------|---|---|---|---|--|
| 30. Name: Peter  |  | Age /Sex: 50/M |                     | O.P.No: 43537 |                 | From: 24/07/08                    |   | To: 05/09/08  |   | No. of Days Treated: 44                   |  |
| DRUG: Chukku Chooranam                                       |  |                | Occupation : Farmer |               |                 | DIAGNOSIS: Azhal Keel Vayu (Both) |   |   |   |   |  |
| Complaints and Duration :                                    |  |                |                     |               |                 |                                   |   |   |   |   |  |
| Pain and tenderness ⊕ in the both knee joint since 6 months. |  |                | Before Treatment    |               | After Treatment |                                   | Investigation   |   |   |   |  |
|  |  |                |                     |               |                 |                                   | Before Treatment  |   |   | After Treatment                           |  |
|  |  |                | Right               | Left          | Right           | Left                              | Blood   | Radiological Findings   | Blood   | Radiological Findings                     |  |
| 1. Pain  |  |                | ++                  | ++            | +               | +                                 | TC- 9800 cell/ cumm<br>DC: P – 66% L– 30% E - 4%<br>ESR<br>½ hour - 4mm<br>1 hour - 8mm<br>Hb% - 82%<br>Bl. Sugar (R) – 94 mgs%<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 162 mgs% | 1. Soft tissue swelling<br><br>Impression<br>Bilateral Osteo<br>arthritis | TC - 9800 cell/cumm<br>DC: P - 70% L -28% E - 2%<br>ESR:<br>½ hour - 2mm<br>1 hour - 4mm<br>Hb% - 82%<br>Bl. Sugar (R) - 88 mgs %<br>Bl. Urea - 16 mgs%<br>S.Cholesterol – 160 mgs% | 1. Soft tissue swelling                   |  |
| 2. Stiffness   |  |                | -                   | -             | -               | -                                 |   |   |   | Impression<br>Bilateral<br>Osteoarthritis |  |
| 3. Limitation of movements ( 30°, 30 - 60°, >60°)            |  |                | II                  | II            | I               | I                                 |   |   |   |   |  |
| 4.Measurement  |  |                | 34cm                | 33cm          | 33cm            | 33cm                              |   | URINE :<br>Albumin : Nil<br>Sugar : Nil<br>Deposit : few epi cells        | Response: Fair  |   |  |
| 5.Tenderness   |  |                | ++                  | ++            | +               | +                                 |   |   |   |   |  |
| 6.Crepitation on movements                                   |  |                | ++                  | ++            | +               | +                                 |   |   |   |   |  |
| 7.Swelling   |  |                | -                   | -             | -               | -                                 |   |   |   |   |  |
| 8. Taking time to walk for 100 feet distance                 |  |                | 50sec               |               | 45sec           |                                   |   |   |   |   |  |

+ - Mild      ++ - Moderate      +++ - Severe

**Good Response**      - Significant relief of symptoms  
**Fair Response**      - Partial relief of symptoms  
**Poor Response**      - In Significant relief of symptoms

## OUT PATIENT

| <b>Name:</b> Chandra sekaran                           |         | <b>Age/Sex:</b> 52/M  |           | <b>From:</b> 29/09/08  |  | <b>To:</b> 07/11/08 |  | <b>No. of days treated:</b> 48 |  |
|--|---------|---|-----------|--|--|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |  | <b>Occupation:</b> Coolie  |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations   | Observation  | Response            |  |                                |  |
|  |         |   |           | Before treatment   |  |                     |  |                                |  |
| 1  | 56408   | Epigastric pain<br><br>Flatulence<br><br>Indigestion since 20 days. | Gunmam    | <b>Blood:</b><br>TC – 9100 cells/cumm<br>DC – P – 65% L- 33% E- 2%<br>ESR: ½ hr - 3mm 1 hr - 7mm<br>Hb% - 75%<br>Sugar (R) - 120mgs%<br>Urea - 27mgs%<br>Cholesterol - 175mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - 1-2 pus cells | 1. Epigastric pain relieved on 30 <sup>th</sup> day.<br>2. Indigestion relieved on 10 <sup>th</sup> day.<br>3. Flatulence relieved on 7 <sup>th</sup> day. | Good                |  |                                |  |

| <b>Name:</b> Sabeena                                   |         | <b>Age/Sex:</b> 45/F  |           | <b>From:</b> 23/09/08  |   | <b>To:</b> 06/11/08 |  | <b>No. of days treated:</b> 45 |  |
|--|---------|---|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |  | <b>Occupation:</b> House Wife   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |   |           | Before treatment   |   |                     |  |                                |  |
| 2  | 56818   | Epigastric pain<br><br>Flatulence<br><br>Anorexia since 20 days.<br><br>Water brash | Gunmam    | <b>Blood:</b><br>TC – 9200 cells/cumm<br>DC – P – 68% L- 30% E- 2%<br>ESR: ½ hr - 4mm 1 hr - 8mm<br>Hb% - 70%<br>Sugar (R) - 110mgs%<br>Urea - 25mgs%<br>Cholesterol - 190mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Epigastric pain relieved on 20 <sup>th</sup> day.<br><br>2. Flatulence relieved on 10 <sup>th</sup> day.<br><br>3. Anorexia relieved on 10 <sup>th</sup> day.<br><br>4. Water brash relieved on 4 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| Name: Kannan                                    |         | Age/Sex: 47/M  |           | From: 23/09/08   |  | To: 07/11/08  |          | No. of days treated: 46 |  |
|---|---------|--|-----------|--|--|---|----------|-------------------------|--|
| Drug: Annabedhi Chenduram – 100mg Bd with honey |         |  |           | Occupation: Farmer   |  |   |          |                         |  |
| SI. No  | O.P. No | Complaints and Duration                                      | Diagnosis | Lab investigations   |  | Observation   | Response |                         |  |
|   |         |  |           | Before treatment   |  |   |          |                         |  |
| 3   | 56821   | Epigastric pain<br><br>Nausea<br><br>Vomiting since 15 days. | Gunmam    | Blood:<br>TC – 8800 cells/cumm<br>DC – P – 61% L- 35% E- 4%<br>ESR: ½ hr - 4mm 1 hr - 8mm<br>Hb% - 72%<br>Sugar (R) - 108mgs%<br>Urea - 24mgs%<br>Cholesterol - 180mgs%<br>Urine:<br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD |  | 1. Nausea and vomiting relieved on 3 <sup>rd</sup> day.<br><br>2. Epigastric pian not relieved. | Fair     |                         |  |

| <b>Name:</b> Saral                                     |         | <b>Age/Sex:</b> 35/F   |           | <b>From:</b> 23/09/08  |                               | <b>To:</b> 03/11/08   |          | <b>No. of days treated:</b> 43 |  |
|--|---------|--|-----------|--|-------------------------------|---|----------|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> House Wife |   |          |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   |                               | Observation   | Response |                                |  |
|  |         |  |           | Before treatment   |                               |   |          |                                |  |
| 4  | 56828   | Epigastric pain<br><br>Flatulence<br><br>Anorexia since 20 days. | Gunmam    | <b>Blood:</b><br>TC – 10000 cells/cumm<br>DC – P – 60% L- 30% E- 4%<br>ESR: ½ hr - 4mm 1 hr - 8mm<br>Hb% - 74%<br>Sugar (R) - 90mgs%<br>Urea - 29mgs%<br>Cholesterol - 185mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - 1-2 pus cells |                               | 1. Epigastric pain relieved on 20 <sup>th</sup> day.<br>2. Flatulence relieved on 7 <sup>th</sup> day.<br>3. Anorexia relieved on 10 <sup>th</sup> day. | Good     |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| Name: Sridhar                                   |         | Age/Sex: 41/M   |           | From: 02/10/08   |  | To: 07/11/08   |          | No. of days treated: 37 |  |
|---|---------|---|-----------|--|--|--|----------|-------------------------|--|
| Drug: Annabedhi Chenduram – 100mg Bd with honey |         |   |           | Occupation: Electrician  |  |  |          |                         |  |
| SI. No  | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations   |  | Observation  | Response |                         |  |
|   |         |   |           | Before treatment   |  |  |          |                         |  |
| 5   | 57838   | Pain in upper region of abdomen<br><br>Indigestion<br><br>Nausea<br><br>Flatulence since 25 days. | Gunmam    | <b>Blood:</b><br>TC – 9500 cells/cumm<br>DC – P – 58% L- 38% E- 4%<br>ESR: ½ hr - 4mm 1 hr - 8mm<br>Hb% - 86%<br><b>Sugar (R)</b> - 108mgs%<br><b>Urea</b> - 26mgs%<br><b>Cholesterol</b> - 170mgs%<br><b>Urine:</b><br><b>Albumin</b> - Nil<br><b>Sugar</b> - Nil<br><b>Deposit</b> - NAD |  | 1. Pain relieved on 15 <sup>th</sup> day.<br>2. Flatulence relieved on 10 <sup>th</sup> day.<br>3. Indigestion relieved on 10 <sup>th</sup> day.<br>4. Nausea relieved on 6 <sup>th</sup> day. | Good     |                         |  |

| <b>Name:</b> Murugan                                   |         | <b>Age/Sex:</b> 41/M                              |           | <b>From:</b> 07/10/08   |                           | <b>To:</b> 13/11/08  |          | <b>No. of days treated:</b> 45 |  |
|--|---------|---|-----------|---|---------------------------|--|----------|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |   | <b>Occupation:</b> Farmer |  |          |                                |  |
| SI. No   | O.P. No | Complaints and Duration                           | Diagnosis | Lab investigations  |                           | Observation  | Response |                                |  |
|  |         |   |           | Before treatment  |                           |  |          |                                |  |
| 6  | 59449   | Epigastric pain<br><br>Indigestion since 15 days. | Gunmam    | <b>Blood:</b><br>TC – 9100 cells/cumm<br>DC – P – 63% L- 35% E- 2%<br><b>ESR:</b> ½ hr - 3mm <b>1 hr</b> - 7mm<br><b>Hb%</b> - 77%<br><b>Sugar (R)</b> - 109mgs%<br><b>Urea</b> - 25mgs%<br><b>Cholesterol</b> - 188mgs%<br><b>Urine:</b><br><b>Albumin</b> - Nil<br><b>Sugar</b> - Nil<br><b>Deposit</b> - NAD |                           | 1. Epigastric pain relieved on 10 <sup>th</sup> day.<br>2. Indigestion relieved on 10 <sup>th</sup> day. | Good     |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Jansi Rani                                |         | <b>Age/Sex:</b> 36/F  |           | <b>From:</b> 07/10/08  |   | <b>To:</b> 10/11/08 |  | <b>No. of days treated:</b> 37 |  |
|--|---------|---|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |  | <b>Occupation:</b> Beedi Worker   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |   |           | Before treatment   |   |                     |  |                                |  |
| 7  | 59451   | Nausea<br><br>Vomiting<br><br>Epigastric pain<br><br>since 10 days. | Gunmam    | <b>Blood:</b><br>TC – 9100 cells/cumm<br>DC – P – 56% L- 40% E- 4%<br>ESR: ½ hr – 5mm 1 hr –10mm<br>Hb% - 75%<br>Sugar (R) - 120mgs%<br>Urea - 26mgs%<br>Cholesterol - 176mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Nausea and vomiting relieved on 6 <sup>th</sup> day.<br>2. Epigastric pain relieved on 20 <sup>th</sup> day. | Good                |  |                                |  |

| <b>Name:</b> Uma                                       |         | <b>Age/Sex:</b> 49/F   |           | <b>From:</b> 14/10/08  |   | <b>To:</b> 17/11/08 |  | <b>No. of days treated:</b> 44 |  |
|--|---------|--|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> House Wife   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |  |           | Before treatment   |   |                     |  |                                |  |
| 8  | 60512   | Epigastric pain<br>Water brash<br>Nausea<br>Flatulence<br><br>since 25 days. | Gunmam    | <b>Blood:</b><br>TC – 9300 cells/cumm<br>DC – P – 62% L- 35% E- 3%<br>ESR: ½ hr - 4mm 1 hr - 9mm<br>Hb% - 77%<br><b>Sugar (R)</b> - 112mgs%<br><b>Urea</b> - 29mgs%<br><b>Cholesterol</b> - 190mgs%<br><b>Urine:</b><br><b>Albumin</b> - Nil<br><b>Sugar</b> - Nil<br><b>Deposit</b> - 1-2 pus cells | 1. Epigastric pain relieved on 20 <sup>th</sup> day.<br>2. Nausea, vomiting and water brash relieved on 7 <sup>th</sup> day.<br>3. Flatulence relieved on 17 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Isachi                                    |         | <b>Age/Sex:</b> 63/M  |           | <b>From:</b> 20/10/08   |  | <b>To:</b> 22/11/08 |  | <b>No. of days treated:</b> 34 |  |
|--|---------|---|-----------|---|--|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |   | <b>Occupation:</b> Coolie                                  |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations  | Observation  | Response            |  |                                |  |
|  |         |   |           | Before treatment  |  |                     |  |                                |  |
| 9  | 61355   | Flatulence<br><br>Nausea<br><br>Epigastric pain<br><br>since 15 days. | Gunmam    | <b>Blood:</b><br>TC – 8800 cells/cumm<br><b>DC – P – 60% L- 37% E- 3%</b><br><b>ESR:</b> ½ hr -3mm <b>1 hr - 7mm</b><br><b>Hb% - 85%</b><br><b>Sugar (R) - 130mgs%</b><br><b>Urea - 27mgs%</b><br><b>Cholesterol - 195mgs%</b><br><b>Urine:</b><br><b>Albumin - Nil</b><br><b>Sugar - Nil</b><br><b>Deposit - 1-2 pus cells</b> | 1. Flatulence,<br>Nausea, Epigastric<br>pain not relieved. | Poor                |  |                                |  |

| <b>Name:</b> Karthikeyan                               |         | <b>Age/Sex:</b> 40/M   |           | <b>From:</b> 20/10/08  |  | <b>To:</b> 28/11/08 |  | <b>No. of days treated:</b> 40 |  |
|--|---------|--|-----------|--|--|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> Gold Smith  |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   | Observation  | Response            |  |                                |  |
|  |         |  |           | Before treatment   |  |                     |  |                                |  |
| 10   | 61492   | Epigastric pain<br><br>Burning sensation<br><br>Flatulence<br><br>since 30 days. | Gunmam    | <b>Blood:</b><br>TC – 10000 cells/cumm<br>DC – P – 58% L- 40% E- 2%<br>ESR: ½ hr - 3mm 1 hr - 6mm<br>Hb% - 75%<br>Sugar (R) - 98mgs%<br>Urea - 25mgs%<br>Cholesterol - 172mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Epigastric pain relieved on 20 <sup>th</sup> day.<br>2. Burning sensation relieved on 10 <sup>th</sup> day.<br>3. Flatulence relieved on 6 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms



| <b>Name:</b> Essakiyammal                              |         | <b>Age/Sex:</b> 65/F                                    |           | <b>From:</b> 20/10/08   |   | <b>To:</b> 28/11/08 |  | <b>No. of days treated:</b> 40 |  |
|--|---------|---|-----------|---|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |   | <b>Occupation:</b> House Wife   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration                                 | Diagnosis | Lab investigations  | Observation   | Response            |  |                                |  |
|  |         |   |           | Before treatment  |   |                     |  |                                |  |
| 11   | 61647   | Epigastric pain<br><br>Flatulence<br><br>since 30 days. | Gunmam    | <b>Blood:</b><br>TC – 9000 cells/cumm<br>DC – P – 57% L- 40% E- 3%<br>ESR: ½ hr - 4mm 1 hr - 8mm<br>Hb% - 80%<br>Sugar (R) - 86mgs%<br>Urea - 26mgs%<br>Cholesterol - 183mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - 1-2 pus cells | 1. Epigastric pain relieved on 15 <sup>th</sup> day.<br>2. Flatulence relieved on 11 <sup>th</sup> day. | Good                |  |                                |  |

| <b>Name:</b> Mohamadhu Musha                           |         | <b>Age/Sex:</b> 61/M   |           | <b>From:</b> 20/10/08  |   | <b>To:</b> 28/11/08 |  | <b>No. of days treated:</b> 40 |  |
|--|---------|--|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> Coolie   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |  |           | Before treatment   |   |                     |  |                                |  |
| 12   | 61352   | Epigastric pain<br><br>Flatulence<br><br>Anorexia<br><br>Nausea since 1 month. | Gunmam    | <b>Blood:</b><br>TC – 9100 cells/cumm<br>DC – P – 58% L- 37% E- 5%<br>ESR: ½ hr – 7mm 1 hr - 13mm<br>Hb% - 77%<br>Sugar (R) - 88mgs%<br>Urea - 25mgs%<br>Cholesterol - 200mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Epigastric pain relieved on 18 <sup>th</sup> day.<br>2. Flatulence, Nausea, Anorexia not relieved. | Fair                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Velmail                                   |         | <b>Age/Sex:</b> 27/F   |           | <b>From:</b> 23/10/08   |                                 | <b>To:</b> 28/11/08  |          | <b>No. of days treated:</b> 34 |  |
|--|---------|--|-----------|---|---------------------------------|--|----------|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |   | <b>Occupation:</b> Beedi Worker |  |          |                                |  |
| SI. No   | O.P. No | Complaints and Duration                                      | Diagnosis | Lab investigations  |                                 | Observation  | Response |                                |  |
|  |         |  |           | Before treatment  |                                 |  |          |                                |  |
| 13   | 62016   | Epigastric pain<br><br>Nausea<br><br>Vomiting since 20 days. | Gunmam    | <b>Blood:</b><br>TC – 9100 cells/cumm<br>DC – P – 60% L- 37% E- 3%<br>ESR: ½ hr – 5mm 1 hr - 10mm<br>Hb% - 77%<br>Sugar (R) - 130mgs%<br>Urea - 30mgs%<br>Cholesterol - 196mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD |                                 | 1. Epigastric pain relieved on 15 <sup>th</sup> day.<br>2. Nausea and vomiting relieved 6 <sup>th</sup> day. | Good     |                                |  |

| <b>Name:</b> Shanthi                                   |         | <b>Age/Sex:</b> 45/F   |           | <b>From:</b> 24/10/08  |                               | <b>To:</b> 28/11/08  |          | <b>No. of days treated:</b> 33 |  |
|--|---------|--|-----------|--|-------------------------------|--|----------|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> House Wife |  |          |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   |                               | Observation  | Response |                                |  |
|  |         |  |           | Before treatment   |                               |  |          |                                |  |
| 14   | 62286   | Epigastric pain<br><br>Nausea<br><br>Flatulence<br><br>Anorexia since 1 month. | Gunmam    | <b>Blood:</b><br>TC – 9100 cells/cumm<br>DC – P – 60% L- 37% E- 3%<br>ESR: ½ hr - 6mm 1 hr -12mm<br>Hb% - 74%<br>Sugar (R) - 110mgs%<br>Urea - 25mgs%<br>Cholesterol - 185mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD |                               | 1. Epigastric pain relieved on 18 <sup>th</sup> day.<br>2. Nausea and flatulence, anorexia not relieved. | Fair     |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Rajasekaran                               |         | <b>Age/Sex:</b> 40/M   |           | <b>From:</b> 24/10/08   |   | <b>To:</b> 27/11/08 |  | <b>No. of days treated:</b> 33 |  |
|--|---------|--|-----------|---|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |   | <b>Occupation:</b> Coolie   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations  | Observation   | Response            |  |                                |  |
|  |         |  |           | Before treatment  |   |                     |  |                                |  |
| 15   | 62285   | Epigastric pain<br><br>Nausea<br><br>Flatulence since 10 days. | Gunmam    | <b>Blood:</b><br>TC – 9000 cells/cumm<br><b>DC – P – 57% L- 40% E- 3%</b><br><b>ESR:</b> ½ hr - 6mm 1 hr -12mm<br><b>Hb% - 71%</b><br><b>Sugar (R) - 104mgs%</b><br><b>Urea - 27mgs%</b><br><b>Cholesterol - 225mgs%</b><br><b>Urine:</b><br><b>Albumin - Nil</b><br><b>Sugar - Nil</b><br><b>Deposit - NAD</b> | 1. Epigastric pain relieved on 22 <sup>nd</sup> day.<br>2. Flatulence relieved on 10 <sup>th</sup> day.<br>3. Nausea relieved on 5 <sup>th</sup> day. | Good                |  |                                |  |

| Name: Babu                                      |         | Age/Sex: 42/M  |           | From: 23/10/08   |  | To: 28/11/08   |          | No. of days treated: 32 |  |
|---|---------|--|-----------|--|--|--|----------|-------------------------|--|
| Drug: Annabedhi Chenduram – 100mg Bd with honey |         |  |           | Occupation: Coolie   |  |  |          |                         |  |
| SI. No  | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   |  | Observation  | Response |                         |  |
|   |         |  |           | Before treatment   |  |  |          |                         |  |
| 16  | 62986   | Epigastric pain<br><br>Nausea<br><br>Indigestion since 1 week. | Gunmam    | <b>Blood:</b><br>TC – 8900 cells/cumm<br>DC – P – 58% L- 39% E- 3%<br>ESR: ½ hr -4mm 1 hr -9mm<br>Hb% - 72%<br>Sugar (R) - 120mgs%<br>Urea - 24mgs%<br>Cholesterol - 189mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD |  | 1. Epigastric pain not relieved.<br>2. Nausea relieved on 5 <sup>th</sup> day.<br>3. Indigestion relieved on 10 <sup>th</sup> day. | Fair     |                         |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Krishnan                                  |         | <b>Age/Sex:</b> 45/M   |           | <b>From:</b> 23/10/08  |  | <b>To:</b> 28/11/08 |  | <b>No. of days treated:</b> 36 |  |
|--|---------|--|-----------|--|--|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> Coolie  |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   | Observation  | Response            |  |                                |  |
|  |         |  |           | Before treatment   |  |                     |  |                                |  |
| 17   | 63096   | Epigastric pain<br><br>Flatulence<br><br>Nausea since 1 month. | Gunmam    | <b>Blood:</b><br>TC – 9300 cells/cumm<br>DC – P – 61% L- 36% E- 3%<br>ESR: ½ hr - 7mm 1 hr -14mm<br>Hb% - 79%<br>Sugar (R) - 110mgs%<br>Urea - 30mgs%<br>Cholesterol - 189mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Epigastric pain relieved on 10 <sup>th</sup> day.<br>2. Flatulence and nausea not relieved. | Fair                |  |                                |  |

| Name: Balakrishnan                              |         | Age/Sex: 42/M   |           | From: 25/10/08  |  | To: 29/11/08   |          | No. of days treated: 34 |  |
|---|---------|---|-----------|---|--|--|----------|-------------------------|--|
| Drug: Annabedhi Chenduram – 100mg Bd with honey |         |   |           | Occupation: Teacher   |  |  |          |                         |  |
| SI. No  | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations  |  | Observation  | Response |                         |  |
|   |         |   |           | Before treatment  |  |  |          |                         |  |
| 18  | 63324   | Epigastric pain<br><br>Nausea<br><br>Water brash since 15 days. | Gunmam    | <b>Blood:</b><br>TC – 9500 cells/cumm<br>DC – P – 59% L- 39% E- 2%<br>ESR: ½ hr - 3mm 1 hr - 6mm<br>Hb% - 72%<br>Sugar (R) - 88mgs%<br>Urea - 24mgs%<br>Cholesterol - 175mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - 1-2 pus cells |  | 1. Epigastric pain relieved on 15 <sup>th</sup> day.<br>2. Nausea and water brash relieved on 5 <sup>th</sup> day. | Good     |                         |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Arumugam                                  |         | <b>Age/Sex:</b> 66/M   |           | <b>From:</b> 25/10/08  |  | <b>To:</b> 29/11/08   |          | <b>No. of days treated:</b> 35 |  |
|--|---------|--|-----------|--|--|---|----------|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           | <b>Occupation:</b> Coolie  |  |   |          |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   |  | Observation   | Response |                                |  |
|  |         |  |           | Before treatment   |  |   |          |                                |  |
| 19   | 63385   | Epigastric pain<br><br>Flatulence<br><br>Nausea since 20 days. | Gunmam    | <b>Blood:</b><br>TC – 8900 cells/cumm<br>DC – P – 64% L- 33% E- 3%<br>ESR: ½ hr – 6mm 1 hr -12mm<br>Hb% - 73%<br>Sugar (R) - 110mgs%<br>Urea - 28mgs%<br>Cholesterol - 189mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD |  | 1. Flatulence and nausea relieved on 8 <sup>th</sup> day.<br>2. Epigastric pain not relieved. | Fair     |                                |  |

| <b>Name:</b> Muhamadhu Mohideen                        |         | <b>Age/Sex:</b> 18/M  |           | <b>From:</b> 25/10/08   |  | <b>To:</b> 28/11/08 |  | <b>No. of days treated:</b> 34 |  |
|--|---------|---|-----------|---|--|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |   | <b>Occupation:</b> Student   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration                                     | Diagnosis | Lab investigations  | Observation  | Response            |  |                                |  |
|  |         |   |           | Before treatment  |  |                     |  |                                |  |
| 20   | 63704   | Indigestion<br>Epigastric pain<br><br>Nausea since 1 month. | Gunmam    | <b>Blood:</b><br>TC – 9500 cells/cumm<br>DC – P – 61% L- 37% E- 2%<br>ESR: ½ hr - 4mm 1 hr - 8mm<br>Hb% - 77%<br>Sugar (R) - 96mgs%<br>Urea - 26mgs%<br>Cholesterol - 180mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - 1-2 pus cells | 1. Indigestion relieved on 10 <sup>th</sup> day.<br>2. Epigastric pain relieved on 20 <sup>th</sup> day.<br>3. Nausea relieved on 5 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Jayanthi                                  |         | <b>Age/Sex:</b> 35/F  |           | <b>From:</b> 25/10/08  |                               | <b>To:</b> 26/11/08  |          | <b>No. of days treated:</b> 32 |  |
|--|---------|---|-----------|--|-------------------------------|--|----------|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |  | <b>Occupation:</b> House Wife |  |          |                                |  |
| SI. No   | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations   |                               | Observation  | Response |                                |  |
|  |         |   |           | Before treatment   |                               |  |          |                                |  |
| 21   | 63812   | Epigastric pain<br><br>Flatulence<br><br>Nausea since 2 months. | Gunmam    | <b>Blood:</b><br>TC – 9800 cells/cumm<br>DC – P – 60% L- 36% E- 4%<br>ESR: ½ hr – 8mm 1 hr -15mm<br>Hb% - 75%<br>Sugar (R) - 100mgs%<br>Urea - 27mgs%<br>Cholesterol - 172mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD |                               | 1. Epigastric pain relieved on 20 <sup>th</sup> day.<br>2. Flatulence and Nausea relieved on 10 <sup>th</sup> day. | Good     |                                |  |

| <b>Name:</b> Valliyammal                               |         | <b>Age/Sex:</b> 52/F   |           | <b>From:</b> 25/10/08   | <b>To:</b> 25/11/08  | <b>No. of days treated:</b> 31 |  |
|--|---------|--|-----------|---|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           | <b>Occupation:</b> House Wife   |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations  | Observation  | Response                       |  |
|  |         |  |           | Before treatment  |  |                                |  |
| 22   | 63853   | Epigastric pain<br><br>Nausea<br><br>Vomiting<br><br>Flatulence since 1 month. | Gunmam    | <b>Blood:</b><br>TC – 10000 cells/cumm<br>DC – P – 59% L- 37% E- 4%<br>ESR: ½ hr - 5mm 1 hr -10mm<br>Hb% - 81%<br>Sugar (R) - 119mgs%<br>Urea - 30mgs%<br>Cholesterol - 193mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Epigastric pain relieved on 17 <sup>th</sup> day.<br>2. Flatulence relieved on 10 <sup>th</sup> day.<br>3. Nausea and vomiting relieved on 5 <sup>th</sup> day. | Good                           |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Kavitha                                   |         | <b>Age/Sex:</b> 35/F   |           | <b>From:</b> 25/10/08  | <b>To:</b> 26/11/08   | <b>No. of days treated:</b> 32 |  |
|--|---------|--|-----------|--|---|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           | <b>Occupation:</b> House Wife  |   |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   | Observation   | Response                       |  |
|  |         |  |           | Before treatment   |   |                                |  |
| 23   | 64430   | Epigastric pain<br><br>Flatulence<br><br>Nausea since 25 days. | Gunmam    | <b>Blood:</b><br>TC – 9100 cells/cumm<br>DC – P – 65% L- 32% E- 3%<br>ESR: ½ hr - 6mm 1 hr -12mm<br>Hb% - 70%<br>Sugar (R) - 102mgs%<br>Urea - 29mgs%<br>Cholesterol - 177mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - 1-2 pus cells | 1. Epigastric pain relieved on 15 <sup>th</sup> day.<br>2. Flatulence relieved on 13 <sup>th</sup> day.<br>3. Nausea relieved on 3 <sup>rd</sup> day. | Good                           |  |

| <b>Name:</b> Narayanan                                 |         | <b>Age/Sex:</b> 40/M  |           | <b>From:</b> 25/10/08   | <b>To:</b> 27/11/08  | <b>No. of days treated:</b> 33 |  |
|--|---------|---|-----------|---|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           | <b>Occupation:</b> Farmer   |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations  | Observation  | Response                       |  |
|  |         |   |           | Before treatment  |  |                                |  |
| 24   | 64431   | Epigastric pain<br><br>Indigestion<br><br>Nausea since 25 days. | Gunmam    | <b>Blood:</b><br>TC – 9800 cells/cumm<br>DC – P – 60% L- 36% E- 4%<br>ESR: ½ hr - 3mm 1 hr - 8mm<br>Hb% - 74%<br>Sugar (R) - 86mgs%<br>Urea - 28mgs%<br>Cholesterol - 193mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Epigastric pain relieved on 14 <sup>th</sup> day.<br>2. Indigestion relieved on 10 <sup>th</sup> day.<br>5. Nausea relieved on 6 <sup>th</sup> day. | Good                           |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Murugesan                                 |         | <b>Age/Sex:</b> 39/M                                    |           | <b>From:</b> 25/10/08  |   | <b>To:</b> 26/11/08 |  | <b>No. of days treated:</b> 32 |  |
|--|---------|---|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |  | <b>Occupation:</b> Coolie   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration                                 | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |   |           | Before treatment   |   |                     |  |                                |  |
| 25   | 64586   | Epigastric pain<br><br>Flatulence<br><br>since 1 month. | Gunmam    | <b>Blood:</b><br>TC – 9000 cells/cumm<br>DC – P – 56% L- 40% E- 4%<br>ESR: ½ hr - 5mm 1 hr -12mm<br>Hb% - 71%<br>Sugar (R) - 100mgs%<br>Urea - 27mgs%<br>Cholesterol - 192mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - 1-2 pus cells | 1. Epigastric pain relieved on 20 <sup>th</sup> day.<br>2. Flatulence relieved on 10 <sup>th</sup> day. | Good                |  |                                |  |

| <b>Name:</b> Saravanan                                 |         | <b>Age/Sex:</b> 42/M   |           | <b>From:</b> 25/10/08  |                           | <b>To:</b> 27/11/08  |          | <b>No. of days treated:</b> 33 |  |
|--|---------|--|-----------|--|---------------------------|--|----------|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> Coolie |  |          |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   |                           | Observation  | Response |                                |  |
|  |         |  |           | Before treatment   |                           |  |          |                                |  |
| 26   | 64491   | Epigastric pain<br><br>Flatulence<br><br>Nausea<br><br>Vomiting since 20 days. | Gunmam    | <b>Blood:</b><br>TC – 9100 cells/cumm<br>DC – P – 61% L- 37% E- 2%<br>ESR: ½ hr - 2mm 1 hr -5mm<br>Hb% - 70%<br>Sugar (R) - 89mgs%<br>Urea - 29mgs%<br>Cholesterol - 190mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD |                           | 1. Epigastric pain relieved on 14 <sup>th</sup> day.<br>2. Flatulence relieved on 10 <sup>th</sup> day.<br>3. Nausea and vomiting relieved on 8 <sup>th</sup> day. | Good     |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms



| Name: Lakshmi                                   |         | Age/Sex: 28/F  |           | From: 26/10/08   |  | To: 27/11/08   |          | No. of days treated: 33 |  |
|---|---------|--|-----------|--|--|--|----------|-------------------------|--|
| Drug: Annabedhi Chenduram – 100mg Bd with honey |         |  |           | Occupation: Beedi Worker   |  |  |          |                         |  |
| SI. No  | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   |  | Observation  | Response |                         |  |
|   |         |  |           | Before treatment   |  |  |          |                         |  |
| 27  | 64492   | Epigastric pain<br><br>Flatulence<br><br>Nausea since 1 month. | Gunmam    | Blood:<br>TC – 9800 cells/cumm<br>DC – P – 62% L- 35% E- 3%<br>ESR: ½ hr - 6mm 1 hr -12mm<br>Hb% - 80%<br>Sugar (R) - 120mgs%<br>Urea - 25mgs%<br>Cholesterol - 170mgs%<br>Urine:<br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD |  | 1. Epigastric pain not relieved.<br>2. Flatulence and nausea not relieved. | Poor     |                         |  |

| <b>Name:</b> Manikandan                                |         | <b>Age/Sex:</b> 46/M  |           | <b>From:</b> 26/10/08  |   | <b>To:</b> 29/11/08 |  | <b>No. of days treated:</b> 35 |  |
|--|---------|---|-----------|--|---|---------------------|--|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |   |           |  | <b>Occupation:</b> Coolie   |                     |  |                                |  |
| SI. No   | O.P. No | Complaints and Duration   | Diagnosis | Lab investigations   | Observation   | Response            |  |                                |  |
|  |         |   |           | Before treatment   |   |                     |  |                                |  |
| 28   | 65105   | Epigastric pain<br><br>Indigestion<br><br>Flatulence<br><br>Nausea since 20 days. | Gunmam    | <b>Blood:</b><br>TC – 9200 cells/cumm<br>DC – P – 62% L- 36% E- 2%<br>ESR: ½ hr - 3mm 1 hr - 6mm<br>Hb% - 72%<br>Sugar (R) - 127mgs%<br>Urea - 26mgs%<br>Cholesterol - 189mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Epigastric pain relieved on 15 <sup>th</sup> day.<br>2. Flatulence relieved on 7 <sup>th</sup> day.<br>3. Indigestion relieved on 10 <sup>th</sup> day.<br>4. Nausea relieved on 12 <sup>th</sup> day. | Good                |  |                                |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

| <b>Name:</b> Tambidurai                                |         | <b>Age/Sex:</b> 40/M   |           | <b>From:</b> 27/10/08  |                           | <b>To:</b> 29/11/08   |          | <b>No. of days treated:</b> 34 |  |
|--|---------|--|-----------|--|---------------------------|---|----------|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           |  | <b>Occupation:</b> Coolie |   |          |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations   |                           | Observation   | Response |                                |  |
|  |         |  |           | Before treatment   |                           |   |          |                                |  |
| 29   | 65329   | Epigastric pain<br><br>Flatulence<br><br>Nausea<br><br>Vomiting since 1 month. | Gunmam    | <b>Blood:</b><br>TC – 9500 cells/cumm<br><b>DC – P – 63% L- 34% E- 3%</b><br><b>ESR:</b> ½ hr - 4mm <b>1 hr - 8mm</b><br><b>Hb% - 75%</b><br><b>Sugar (R) - 100mgs%</b><br><b>Urea - 27mgs%</b><br><b>Cholesterol - 170mgs%</b><br><b>Urine:</b><br><b>Albumin - Nil</b><br><b>Sugar - Nil</b><br><b>Deposit - 1-2 pus cells</b> |                           | 1. Epigastric pain relieved on 17 <sup>th</sup> day.<br>2. Flatulence Nausea and vomiting relieved on 10 <sup>th</sup> day. | Good     |                                |  |

| <b>Name:</b> Sakunthula                                |         | <b>Age/Sex:</b> 35/F   |           | <b>From:</b> 27/10/08   | <b>To:</b> 29/11/08   | <b>No. of days treated:</b> 34 |  |
|--|---------|--|-----------|---|---|--------------------------------|--|
| <b>Drug:</b> Annabedhi Chenduram – 100mg Bd with honey |         |  |           | <b>Occupation:</b> House Wife   |   |                                |  |
| SI. No   | O.P. No | Complaints and Duration  | Diagnosis | Lab investigations  | Observation   | Response                       |  |
|  |         |  |           | Before treatment  |   |                                |  |
| 30   | 65328   | Epigastric pain<br><br>Flatulence<br><br>Nausea since 20 days. | Gunmam    | <b>Blood:</b><br>TC – 9200 cells/cumm<br>DC – P – 60% L- 37% E- 3%<br>ESR: ½ hr - 3mm 1 hr -7mm<br>Hb% - 80%<br>Sugar (R) - 105mgs%<br>Urea - 27mgs%<br>Cholesterol - 181mgs%<br><b>Urine:</b><br>Albumin - Nil<br>Sugar - Nil<br>Deposit - NAD | 1. Epigastric pain relieved on 12 <sup>th</sup> day.<br>2. Flatulence relieved on 10 <sup>th</sup> day.<br>3. Nausea relieved on 5 <sup>th</sup> day. | Good                           |  |

Good Response – Complete relief of symptoms

Fair Response – Moderate relief of symptoms

Poor Response – No relief of symptoms

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